OPPORTUNITY ASSESSMENT OF DYNAMIC CURRENCY CONVERSION IN CANADA

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ABSTRACT

This analysis assesses the opportunity that *Dynamic Currency Conversion* (DCC) represents for Hyperwallet, Inc. in Canada. DCC is a legal and established business around the world but its market potential in Canada is almost untouched. Hyperwallet is capable of running a standard DCC system but plans to introduce a patentable new transaction-rerouting technology which would provide a cost advantage in comparison to future competitors. Establishing a cross border presence in line with the rerouting technology involves a large initial investment. Therefore, this project shrinks the scope of business with Americans, who constitute the largest foreign tourist group in Canada. Hyperwallet is provided with a pros and cons study of two equally promising locations to introduce the service. In light of the conclusions reached, this project confirms that Hyperwallet should pursue DCC. This project recommends that a feasibility analysis be performed to study the cost structure of the two locations before finalizing an investment decision.

Keywords: Dynamic Currency Conversion, Forex, Visa, Opportunity Assessment.

DEDICATION

I offer my earnest gratitude to Nesrin and Hüsnü...

My journey has taken me to shores far away. The path I leave behind is not an end in itself but a mean to greater achievements. Achievements that will still be dwarfed by what you two have achieved with so little in hand.
We will meet again. It is my desire to see you proud when we do.

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1 AIM, SCOPE, AND STRUCTURE OF THE RESEARCH

The purpose of this analysis is to assess the opportunity that *Dynamic Currency Conversion* (DCC) might represent for Hyperwallet Inc. DCC is a currency exchange service for credit card transactions and is an alternative to the service provided by the relevant Credit Card Association. Companies that offer DCC service are still at an early investment stage. The general introduction of the service was delayed until 2003 due to ambiguities and concerns with the legality of the service. The situation thus requires careful analysis.

Hyperwallet Inc., a Vancouver based company operating in the electronic payments industry, identified a radical technological modification to the way DCC service is provided. The new technology promises a competitive advantage made possible by a patentable transaction rerouting technology. The rerouting, however, forces Hyperwallet to limit the number of currencies made available for currency exchange.

The project scope specifically limits itself to visitors to Canada from the US who bring with them US Dollars that need to be converted to Canadian currency. Hyperwallet assumes that Canada is a primary destination for Americans who are the most frequent travellers to Canada making USD the most liquid foreign currency in Canada. Furthermore, the research does not include currency conversions performed for eCommerce transactions and concentrates only on the tourism industry. Before any further study is performed, chapter two presents statistical tourism data that tests the appropriateness of this limited scope.

In order to clarify the market potential for DCC services, chapter three provides a broad overview of the payment alternatives available to a tourist in a foreign country before breaking the analysis into a detailed comparison of global DCC providers. This analysis serves as a competitor analysis with an ultimate focus on the Canadian payments market as it is the Canadian market that Hyperwallet targets. Chapter four introduces DCC by Hyperwallet as radically different from the rest of the card processors. This chapter provides a visual presentation of three different ways of handling the same credit card transaction, relevant cost structures for each procedure, and the underlying causes for the deviations from the dominant procedure adopted by credit card associations. Chapter five aims to assess Hyperwallet's readiness for a DCC investment. This chapter provides an internal analysis of Hyperwallet, while matching and comparing this analysis with the minimal qualities required in a company that intents to provide DCC service. Chapter six discusses the level of cardholder adoption and provides a stakeholder analysis that outlines the transfer of power and interest in the payments industry as a result of the introduction of DCC. The risks and threats section is presented as an input into the investment strategy presented in the last chapter. This last chapter concludes the research by recommending a strategy for Hyperwallet to follow regarding Dynamic Currency Conversion investment in Canada.

1.1 Introduction

This introductory chapter starts with a description of Dynamic Currency Conversion and an assessment of why it might be an investment opportunity. The following two sections briefly introduce Hyperwallet and events that led to the identification of Dynamic Currency Conversion as a business opportunity. The last section provides a table with the terminology used in this research.

1.2 Dynamic Currency Conversion (DCC)

Dynamic currency conversion is a service in which a credit card transaction is converted in real time, at the point-of-sale, from the currency in which the merchant offers its goods into the currency in which the customer's credit card is billed, all with the customer's consent. When a credit card is used across borders, the transaction requires a currency conversion. The goods and services provided by the merchant are priced at the local currency, whereas the credit card to be used has a different base currency. The current process requires that if the customer chooses to make the payment with the credit card, credit card companies intervene and handle the currency conversion for the transaction.

The major problem with this procedure is that the customer receives the notification of the conversion no earlier than the end-of-month credit card balance statement. Prior to that statement it takes a great amount of time and effort on behalf of the card holder to find out what the transaction would actually cost as the conversion rate applicable to the transaction is not made available by the credit card at the time of the transaction. In addition, credit card companies have limited constraints while determining the rate applicable to the transactions involving currency exchange. While Visa chooses to declare the rates at the end of the day and at a rate most convenient to Visa, the process is not open to supervision by any other agency.

According to Nilson Report, "bank card transactions involving cardholders with accounts denominated in a currency other than the merchant's currency generated more than $930 million[1] in revenues from foreign exchange (FX) conversion fees for Visa and MasterCard last year[2]". (Nilson, 2003) This figure includes revenues from all transactions and currencies.

Dynamic Currency Conversion undertakes the currency conversion of the transaction on the spot with real-time rates. More often than not, the conversion rates used are as good as or slightly more competitive than the rates used by credit card companies. Even so the foreign exchange element of the service generates profits. The margin resulting from the foreign exchange service is shared between the service provider (e.g. Hyperwallet), the merchant (as an incentive to provide the service) resulting in a win-win solution for all but the incumbent credit card companies. The new method of handling the currency conversion is an effective alternative to the current method used by Visa and puts Hyperwallet in direct competition with the major credit card associations and other DCC providers for the currency exchange revenues.

1.3 Hyperwallet Systems Inc.

Hyperwallet Systems Inc. is a Vancouver, BC based, privately owned Financial Services Technology Company founded in February 2000 with a mission to develop intuitive, accessible and low-cost payment solutions for the online and wireless markets. To steadily build its reputation in the payments industry, Hyperwallet licenses solutions to financial institutions, financial service providers and provides a range of electronic payment processing services to individuals, businesses and corporations.

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[1] US Dollars
[2] 2002

The main revenue source, HyperPAY Platform, is a highly functional electronic payment processing platform and is developed with in-house capabilities. Hyperwallet is an e-payments technology provider with 40% of the workforce allocated to technology development and technical support.

Hyperwallet's customer base is composed of companies that licence Hyperwallet's e-payments and debit card technology and retail it to their own customer base. Hyperwallet also provides online services and debit card solutions directly to customers, such as companies and communities (e.g. First Nations in Canada).

1.4 Introduction to the Opportunity

Two developments brought the potential of DCC into focus as an investment and diversification opportunity. First, Hyperwallet's management identified a business opportunity to develop 'terminal services' type solutions at a remote tourist region in Canada in 2003. The terminal would serve as a currency exchange service for credit cards used in a region with visitors predominately from US. The company was reluctant to initiate the investment at that point in time because the service's legal standing was in question and the giant credit card companies, the dominant players in the industry, were expected to fight back to hold on to their "currency conversion fee" revenues.

Secondly and subsequently, at the well publicized settlement of the 2003 California Supreme Court lawsuit, "Adam A. Schwartz vs. Visa International", the court ruled in favour of the alternative currency conversion companies. This incident legitimized the alternative methods of handling the foreign exchange side of credit card transactions. With the biggest obstacle removed, Hyperwallet began to reconsider its decision.

1.5 The Terminology

This document contains terminology that may be unknown to the reader. The following table presents a list of the most widely used terminology in this study.

Table 1-1 Terminology

Terminology	
Cardholder	Person who presents the credit card for a purchase
Merchant	Shop owner who supplies the merchandise for purchase
Issuer Bank	Bank that issues the credit card to cardholder.
Acquirer	Bank which holds merchant's accounts.
Association	Credit card company such as Visa and MasterCard
Visa	Visa Corporation
MasterCard	MasterCard Corporation

1.6 Conclusion

Dynamic currency conversion is a service in which a credit card transaction is converted in real time, at the point-of-sale, from the currency in which the merchant offers its goods into the currency in which the customer's credit card is billed, all with the customer's consent. This service operates in direct competition to the currency conversion services provided by major credit card companies. Judging from the size of the revenue declared by Visa and issuer banks from their service, this opportunity promises a significant investment opportunity for Hyperwallet. This paper assesses the value of the opportunity that DCC represents for Hyperwallet in Canada. The scope of the paper is limited by certain assumptions about the credit card market and cardholders and the following chapter analyzes data to assess whether these assumptions are justified.

2 CANADIAN FOREIGN TOURISM MARKET

The aim of this chapter is to assess whether the decision by Hyperwallet to limit the scope of this project to Americans visiting Canada is justified. The underlying reason to limit the scope to a single currency is to control the cost structure in the initial investment period. Launching the project with an ability to support numerous global currencies would require a major up front investment due to the "rerouting" model that Hyperwallet desires to move forward with.

Incoming tourists to Canada are divided into two categories: US visitors and Overseas visitors. US visitors are tourists travelling to Canada from the US and spend US Dollars in Canada. Overseas travellers to Canada are tourists from the rest of the world and this category does not have a single dominant currency associated with it. Travellers from the countries that form the top overseas travellers list typically bring in their native currencies.

The three sections in this chapter provide data concerning the foreign tourism market in Canada and each section concludes with the trends that can be identified in the historic statistical data presented. The first section analyzes the demand fluctuations to tourism destinations in Canada in relation with shifts in the Canadian Dollar value. The currency pairs in focus are limited to USD/CAD and EUR/CAD as these pairs are accounted for the major part of the currency exchanges in Canada. The second section further breaks down the Overseas Travellers group. This section shows how diversified the currencies carried by Overseas tourist are. The last section provides data on the purpose of travel for the incoming travellers to Canada. This section assumes that the travellers that arrive with a holiday/vacation purpose are more likely to spend money and therefore represent a better target customer group. An overall conclusion to the

chapter answers the question whether Hyperwallet is justified in restricting the scope to travellers from US to Canada.

2.1 Effects of Currency Fluctuations on Tourism Demand

Currency value changes are a vital part of the macro economy of a country and are directly influenced by indicators such as the status of central bank interest rates, the unemployment rate, changes in the GDP, and the amount of foreign currency in the country etc. This study assumes that a weak currency value with the receiving country boosts greater tourist turnout from a country with a strengthening currency.

Canada is a primary travel destination for both US and overseas visitors all year around. The most reliable data on facts and figures related to foreign visitors to Canada is published annually by Canadian Tourism Commission. Table 2-1 below summarizes the Canadian Tourism Revenues realised in 2004. (Canadian Tourism, 2004)

Table 2-1 Canadian Tourism Revenues 2004

Tourism in the Canadian Economy, 2004		
	Billions $	Percentage Change 2003/2004
Total Demand	57.4	6.5
Domestic	39.7	3.7
International	17.8	12.9

Data Source: Canadian Tourism, *2004*

According to a recent report, tourism spending in Canada totalled $57.5 billion in 2004, a 6.5% increase compared to 2003 (Canadian Tourism, 2004). Most importantly, international demand reached $17.8 billion which corresponds to a remarkable 12.9% jump from 2003. Currency value fluctuations are in theory one of the major contributors to the fluctuations in demand revealed in Table 2-2.

The worst performance by the Canadian dollar (CAD) in the last decade was in 2002. This was the year when CAD lost considerable value to major currencies such as US dollar (USD) and Euro (EUR) (See Appendices A and B). According to market theories, a weakening in value of the domestic currency would create greater foreign demand to country's tourism industry holding other major variables such as political and social situation in the country constant. In line with the market rules, Canadian Dollar's lowest value against USD in 2002[3] as shown on Table 2-2 also represents the peak value of number of US visitors to Canada. The year 2002 also witnesses CAD weakness against the EUR[4] but the potential demand increase due to stronger EUR fails to materialize. In fact, the number of trips from overseas destinations decreases by a margin of 200.000 (Canadian Tourism, 2004).

A second example is the year 1998 in which the USD found exceptional strength against the CAD. Similar set of data reveals a similar market trend where the visits from US register an 11.2% increase from 1997 and the visitors from overseas decline by 300.000.

As a result, an exceptionally weak CAD boosted the inflow of American visitors to Canada but the same is not true with visitors from the EU. Therefore this statistics fails to provide a correlation between currency value and the demand as a general rule. On the other hand, it reveals that if the conditions for a vacation abroad are favourable, Americans are more inclined to spend their vacation in Canada compared to other overseas travellers combined.

As for 2004, foreign visitors are accountable for $17.8 billion or 30.9% of the sum shown on Table 2-1. This revenue was generated by foreigners making

[3] According to inter-bank currency conversion rates data, in 2002 USD reached a record high of 1.6187 against CAD.
[4] The euro (EUR) was formally launched on 1 January 1999 but the currency has only been used for non-cash transactions such as cheques and bank transfers. The euro notes and coins were officially launched on 1 January 2002. EUR reached one of the historical highs of 1.6204 in 2002.

19.0 million overnight trips to Canada in 2004, a 9.2% increase over 2003. The bulk of the visits by foreigners, as shown on Table 2-2, are taken by Americans in the amount of 15.1 million trips or 6.34% more trips compared to 2003.

Table 2-2 International Tourists to Canada 1994-2004

Data Source: Canadian Tourism, *2004*

Oddly enough, the increased demand in 2004 comes at a time of value increase of CAD against the USD[5]. Apparently, CAD strength does not have a major negative effect on the American interests to Canadian vacation destinations. To the contrary, EUR continues to gain value against CAD in 2004[6] which in theory should have catalyzed a greater percent demand increase to Canadian destinations by Overseas tourists than American tourists. In fact 3.9 million trips by overseas travellers in 2004 fall just short of the 10 year average of 3.94 million.

[5] According to spot FOREX rates, USD starts 2004 with a conversion rate of 1.2816 against CAD and finishes with 1.2074 on the last trading day. The yearly low of 1.1716 in November 2004 represents a %27.2 value increase for CAD against USD from the record highs of 2002.
[6] EUR reached an all time high value of 1.6972 against CAD in 2004

The demand from overseas tourists increases as expected with the increase in the value of most dominant overseas currency, EUR, against CAD. This is in line with the assumption that stronger currency boosts more outbound travellers and the same trend is witnessed with the case of US travellers at the times of strong US currency. But the potential that US travellers represent to Canada in times of weak Canadian currency is much superior to what it is with any other currency.

On the other hand, a strong CAD value does limit overseas travellers to Canada as expected, but has little influence on the number of visitors from the US. These conclusions are clearly visible on the historic statistical data and prove that Canada is a prime destination for Americans regardless of the currency value fluctuations.

To conclude, the effects of the currency fluctuations on the tourism demand are mixed. A strong USD boosts the number of American tourists to Canada but a stronger CAD does not limit the number of American travellers to Canada. In comparison to USD/CAD relationship, a strong EUR visibly increase the number of visitors from EU to Canada but this increase cannot be calculated with a direct correlation to EUR/CAD currency pair moves. However, there are two reliable conclusions derived from this section. The first is that currency pairs show considerable fluctuations on every hour of the day and therefore keeping the exchange rate applicable to credit card transaction up to date makes a difference for the cardholders. Secondly, Canada enjoys overwhelmingly larger number of US visitors compared to any other country regardless of the strength of its currency.

2.2 A Breakdown of Overseas Tourists

The breakdown of overseas travellers to Canada is important because it reveals the most dominant currencies brought to Canada besides USD. Table 2-3 illustrates the break down of major overseas travellers to Canada.

Table 2-3 Breakdown of Overseas Visitors to Canada

Canada's Top Ten Major Overseas Tourist Markets, 2004			
	Trips '000	Nights '000	Spending millions $
United Kingdom	801	10,221	1,115
Japan	391	4,742	553
France	337	4,891	405
Germany	296	4,588	397
Australia	174	2,447	272
Mexico	169	2,886	232
South Korea	164	3,897	232
Hong Kong	115	2,168	142
Netherlands	114	1,830	147
Taiwan	106	1,308	125

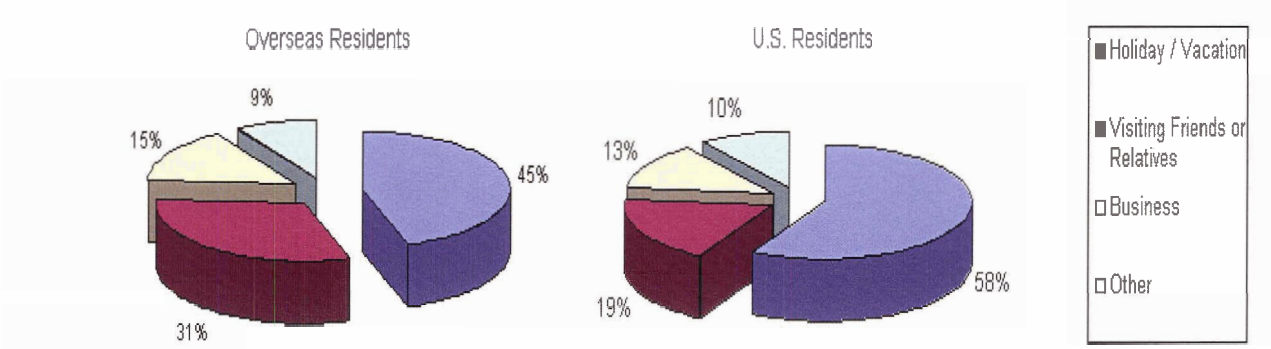
Data Source: Canadian Tourism, *2004*

As shown in Table 2-2, 3.9 million trips taken by overseas residents in 2004 is an increase of 21.87% compared to 2003 figure. Even though the increase in overseas visitors to Canada in 2004 is three times larger than the increase in US visitors, the revenue received from overseas tourists is split into multiple currencies ranging from European currencies (GBP and EUR) to Far-Eastern currencies (JPY, AUD, SKW, etc.) In comparison, visitors from the US rely only on USD on their travels to Canada, establishing USD abundance. The breakdown of overseas travellers reveals that no other single currency has the potential to challenge the USD's dominance as the most abundant foreign currency in circulation in Canada.

2.3 Travellers by Purpose

The purpose of travel by foreigners can also have an effect on their spending behaviour. The bulk of the number of transactions requiring currency exchange is performed by holiday/vacation visitors to Canada. This is because the vacationers are more likely to stay in hotels and participate in sightseeing events. The following Figure 2-1 identifies the spending characteristics of foreign visitors to Canada and illustrates the percentage of pleasure trips taken by both US and Overseas residents.

Figure 2-1 International Tourists to Canada by Purpose



Data Source: Canadian Tourism, *2004*

According to Figure 2-1, visitors from the US are more likely to be holiday visitors than overseas visitors. Visitors staying with friends and relatives tend not to contribute to tourism revenues as much as those who stay in hotels. This fact indicates that more US dollars are spent in the hotels and restaurants in Canada than other foreign currencies.

2.4 Conclusion

Official statistical data reveals that the Canadian Tourism Industry hosts overwhelmingly larger numbers of visitors from the US who bring with them the USD to spend. Furthermore, overseas travellers do not constitute a single currency group and are further broken into currencies such as EUR, GBP, and JPY. This fact puts any foreign currency in Canada in short supply in comparison

with the dominant USD. The data also shows that Americans come to Canada mostly for holiday/vacation purposes and thus occupy hotels and resorts more often than visitors from overseas. Overseas travellers are associated more with visiting "friends or relatives" and therefore do not contribute to local tourism revenues as much as hotel and resort visitors.

Canada is a prime destination for Americans regardless of the currency value fluctuations. The effects of the currency fluctuations on the tourism demand are mixed. The weakening of Canadian currency visibly mobilizes more US visitors to Canada than Overseas visitors but the results do not provide a strong correlation between the currency value and the tourism demand.

In light of the conclusions above, the dominant tourism currency in Canada is the USD by a considerable margin. The above stated facts about the Canadian Tourism Industry justify Hyperwallet's decision to restrict the scope of this project to US Dollars. The following chapter analyzes the various payment methods available to tourists in Canada and the currency conversion alternatives associated with each payment method.

3 PAYMENT ALTERNATIVES - COMPETITION ANALYSIS

The purpose of this chapter is to provide an overview of the competition in the form of alternative ways of paying available to tourists. The analysis starts with a broad pros and cons analysis of major alternatives of making a payment available to a tourist in a foreign country. All payment methods analyzed need a currency conversion service when serving a foreign tourist. Various currency conversion methods presented in this chapter include those that can be completed before travelling (as in prepaid cards, traveller's cheques, or pre-converted cash), while abroad (currency exchange offices, ATMs, or Banks), or can be delayed through the use of credit cards. Such a detailed study is necessary in order to justify DCC's positioning as an alternative to credit card foreign exchange services. The chapter utilizes this information as a background in order to present a competition analysis for the global DCC industry only to conclude with a focus on the Canadian DCC competitors and market potential. Furthermore, the pros-and-cons approach in the chapter forms the basis for the Consumer Behaviour chapter which analyzes the rationale and motivation behind a tourist's preferences with the payment methods and the currency conversion alternatives attached to them.

This chapter centers on the information provided in Table 3-1. Each payment method shown in the table is allocated a section in the chapter and each section provides a study of the foreign exchange alternatives associated with that payment method.

3.1 Payment Methods

This section provides an overview of methods of payments for products and services in Canada. Methods analyzed in this study vary from electronic alternatives such as credit cards and debit cards to classic methods such as traveller's cheques and cash. With more consumers having access to credit and debit cards, the market share of the traditional methods such as traveller's cheques is rapidly declining (Visa and Global Insight, 2004). Consumer trend analysis publications convincingly point out that traveller's cheque may be approaching its final days as a major payment method.

While the classic paper methods of payments are on the decline, the emphasis shifts to the rise of electronic payment methods such as credit and debit card. The only partial exception to this is cash payments. Even though the market share for cash expenditure is at risk from competition by electronic methods, cash is unlikely to be replaced for everyday payments of small amounts. While there is no reliable data available on the volume of exchange performed by local currency offices (that directly influences the amount of cash in visitors' pockets), the volume of international credit card expenditure in Canada is published annually by Visa for their customers

According to "The benefits of Electronic Payments on the Canadian Economy" article published by Visa Canada, International Visa cardholders purchased $C 5.2 Billion[7] in merchandise using their Visa cards in Canada (Visa 2003). This figure is the result of approximately 37 Million transactions. Visa Canada single-handedly provided currency conversion services for above 95% of these transactions. The following section provides information on the conversion alternatives available for each payment method.

[7] This 2003 figure does not include the volume of transaction recorded by other major credit card companies such as MasterCard, American Express, etc. In addition, it does not constitute the total size of the foreign currency credit card payments market in Canada.

3.1.1 Competition Matrix

The Competition Matrix below not only identifies the major payment methods available for foreign tourists in Canada but also lists available conversion alternatives for each method. The left side of the matrix shows the alternative payment methods, whereas the right side lists the currency conversion alternatives associated with that payment type. The following sections describe the characteristics of each payment method with respect to Table 3-1.

Table 3-1 Competition Matrix

COMPETITION MATRIX		← CONVERSION BY →		
↑ PAYMENT BY ↓	**Credit Cards**	Associations	DCC	Foreign Currency Credit Cards
	Debit Cards	Issuer Banks		
	Cash	Local Currency Offices	Cash ATMs	Local Banks
	Travellers Check	Visa	Issuer Banks	

3.1.1.1 Credit Cards

Credit cards present a safe and convenient way of making non-cash purchases abroad. Major credit cards are widely accepted in developed countries and most travel destinations world-wide. Table 3-2 presents advantages and disadvantages attached to credit card use abroad.

Table 3-2 Credit Cards

Credit Cards		
Advantages	Safety	No liability for unauthorised transactions
		Card is replaceable if lost
	Convenience	Instead of carrying larger amounts of cash
Disadvantages	Account Limit	Could be rapidly used to their limit
	Fees	Transaction fees
		Interest fees
	Unavailability	Unavailability of network
		Unavailability of service

Credit Cards' advantages are not limited to their convenience. On the issue of safety of money, credit cards are relatively safe when compared to carrying cash; card members are usually not liable for unauthorized purchases, whereas once lost, cash is very difficult, if not virtually impossible, to trace or recover.

Nevertheless, international travellers are recommended not to rely on their credit cards as their sole alternative for payment. Credit cards can be rapidly used to their limits or may require a different PIN if used abroad. Other problems faced can include temporary unavailability of the network and the unavailability of credit card service with a particular merchant. The next section clarifies the conversion rates applied by credit card associations.

3.1.1.1.1 Conversion Rates on Credit Cards

Exchange rates offered by credit cards are based on the wholesale rate offered to large banks and corporations (Lazarony, 2001). These rates tend to be better than the retail rate offered to consumers by local currency conversion offices. This slight advantage on paper can be misleading in practice as Visa charges a 1% "transaction fee" every time its card is used abroad. Issuer banks on the other hand charge on average of 2% in addition to Visa's charge. Furthermore, since the card user would be using from credit at the time of the

transaction, any unpaid portion of debt at the end of month would be subject to an interest charge.

It is important to clarify that DCC is not an alternative to the credit card payment method itself but an alternative to the foreign exchange service associated with it. On some occasions the exchange rate offered by the DCC operator may enjoy a slight advantage to the rate offered by Visa. But vast majority of the time, the rate provided by the DCC operator will be competitive with the one provided by Visa (O'Sullivan, 2006). The DCC service does not aim to capture the cost conscious tourists but rather brings the convenience of paying at the home currency without any worries of having additional fees attached to the cost of the merchandise or service. The next section analyzes mainstream credit card types in the market.

3.1.1.1.2 Credit Card Alternatives

This section analyzes credit cards offered with distinct currency and credit structures. The first example is the credit card offered in foreign currencies. With a USD based credit card issued by a Canadian bank, the customer can make purchases in USD and is billed in USD. At the end of the billing month, the customer is also asked to pay for the balance in USD. Eventually, the cardholder who works in Canada and earns an income in CAD would need to settle the currency conversion with the bank to pay the balance. Thus foreign currency credit cards change the timing of the currency conversion, but not the necessity for currency conversion.

Visa also offers a "Prepaid" credit card which is used exactly like a credit card, except that it is only valid until the deposited amount is spent. Prepaid Visa comes with a number, expire date, and a CVV (three digit safety number). Prepaid offers maximum security concerning the expenditure because unlike regular cards the liability is limited to the amount deposited. However the amount

deposited involves a currency conversion that goes through the same steps as regular credit cards when used abroad. This is a one time conversion at the time of purchase and therefore the currency fluctuations in time are no longer relevant. Hence prepaid credit cards reduce the uncertainty over the cost of the currency deposited to the card.

The closed-loop systems[8] in which the card company is both the issuer and the acquirer would not be negatively affected by DCC at first (Nilson, 2003). The operation structure of American Express does not allow for a third party involvement to the currency conversion process. Since the DCC operator is expected to share profits with the merchant, the merchants working with American Express might eventually consider foreign exchange revenue as their right and begin to demand their share from card issuers.

Lastly, some credit cards offer health and travel insurance as well as discounts on selected stores. In addition, credit cards may also provide other incentives such as travel miles bonuses earned per expenditure. If the consumer prefers the credit card due to its additional benefits, the additional fee applied by Visa may fall secondary in importance even though financially these extras may not amount to much.

To conclude, credit card alternatives only delay the need for currency conversion or move it to an earlier date. Because of this, they represent no greater competition to DCC than standard credit cards.

3.1.1.2 Debit Cards

Debit Cards allow purchases to be made where the funds are transferred from customer's savings or checking account and deposited directly into the merchant's account. When the debit card transaction is made in a foreign

[8] American express, JCB, and Diners Club

country, an immediate currency conversion is needed to settle the amount. The following table presents the advantages and disadvantages associated with debit card use.

Table 3-3 Debit Cards

Debit Cards		
Advantages	Convenience	Replaces carrying larger amounts of cash
		Card is replaceable if lost
	Discipline	Cannot be used beyond the amount in account
Disadvantages	Fees	Charges a transaction fee for each use
	Exchange	FX is handled only through the issuer bank
	Unavailability	Unavailability of network
		Unavailability of service

Debit cards are becoming increasingly popular along with credit cards, but the debit card's only advantage, when it comes to foreign country usage, is limited to eliminating the risk associated with carrying large amounts of cash. Debit cards could also be appealing to some tourists as the money that can be spent through debit cards is usually limited to the money already in the card holder's account.

The usage of debit cards for transactions of small amounts is not recommended as every transaction involves a transaction fee or a predetermined percent commission. This is why debit cards are not expected to replace the convenience of carrying small amounts of cash for such transactions.

Debit cards are also used to withdraw cash from teller machines but such a transaction also involves a transaction fee and a currency conversion. The fee structure of debit cards may force the card holder to make fewer and larger cash withdrawals instead of smaller, more frequent ones. This fact however would directly conflict with the "no large amount cash carrying necessary" advantage of plastic cards.

Debit cards usually offer more favourable exchange rates than local currency offices. In addition, ATM machines are ever more abundant. "The Visa network has 480.000 machines around the world, MasterCard has more than 350.000" (Wells, 2000). However, the currency conversion for debit card transactions can only be processed by the issuing bank. This fact sets up a monopoly by the issuer bank over the conversion revenue and the account holder may be charged a percentage (up to 2.5%) of the transaction, while others may be charged a small, flat fee. Debit card represents spending electronic cash in your account and is a more direct competitor to cash than credit cards are. The next section analyzes cash as a payment alternative.

3.1.1.3 Cash

Cash remains the oldest and the most preferred alternative of receiving payment on behalf of the merchants. Even though the volume of cash changing hands is coming under increasing pressure from plastic card payment alternatives, cash is still the most convenient form of payment for small-value transactions such as taxi fares, tips, newspapers and magazines, shoe shines, convenience store purchases, etc.

2002 Nilson Report predicts, "There will never be a cashless society. Based on frequency of use, currency and coins are still king and will continue to provide a method of payment that will never be completely replaced by any other system at any time." (Kiosk, 2002) It could be argued that plastic cards have already made their break with larger amount payments and the remaining use for cash is already limited for small everyday transactions. In line with the same thought, recent government reports indicate that cash usage, contrary to highly publicized theories that society is moving towards a cashless system, would remain steady well into the future.

In a study by American Express in 1999, "it is discovered that people on the road in the United States carry an average of $500. American Express study also found that 42 percent of spending by vacationers that did not involve advance purchases (like air fares) was charged to a credit or debit card, 40 percent was in cash, and 18 percent in money taken from ATMs, (cash or traveller's cheques)." (Wade, 2000) Forty percent of the spending in addition to a sizable amount from the percent taken from ATMs represents a significant amount of cash in tourists' pockets.

Canadian financial institutions will usually give their best exchange rate to American Dollars due to the fact that it is the second most liquid currency accepted in Canada. Some merchants discount the value of the USD by as much as 5%, citing an overhead charge for accepting foreign currency. Those who bring other currencies to Canada have to go to a financial institution to get Canadian funds, or use a credit card for purchases.

Carrying cash could have downsides to it too. Cash is risky to store, not easily traced if lost or stolen, and may need to be registered upon entry into the country due to international anti-money laundering laws in effect. Cash can be converted to local currency through local currency exchange offices, ATMs, or local banks. The next section analyzes the advantages and disadvantages of all three alternatives.

3.1.1.3.1 Local Currency Exchange Offices

Currency offices are privately owned cash stores that exchange the foreign currency to local currency at the real-time rates or vice versa. The main advantage they offer is convenience of location and speed of conversion transaction. It is also possible to compare and prefer the best rate if a few of these offices are located in close proximity to each other.

However, currency offices primarily make their income by buying and selling currency. That means they usually need to make a bigger profit margin than the banks on every transaction — which in turn means that they may not offer as good an exchange rate as one would get at a bank or at a hotel. In addition, these offices are often closed on Sundays and/or Mondays.

3.1.1.3.2 Automatic Teller Machines (ATM)

Automatic Teller Machines, also called Cash Machines, are unattended cash machines located in public places to provide remote banking services. Some ATMs are also capable of providing a currency exchange service.

ATMs are never closed and are rarely out of service. Even if out of service, an alternative teller is almost always provided in urban areas. Tourists who rely solely on ATMs may encounter problems at remote resort towns where the unavailability of services may mean waiting a couple of days for the machine to be fixed.

ATMs usually offer a generally favourable exchange rate. However, commissions and bank charges are still incurred. Therefore tourists may find it cost effective to make one or two large withdrawals rather than a number of smaller withdrawals.

3.1.1.3.3 Banks

Commercial Banks offer over the counter currency conversion service. Banks do not aggressively promote their currency conversion service as this is not their main source of revenue; however they do promote bank cards as those do benefit the banks directly and/or indirectly.

Banks usually provide the most stable currency rate (not necessarily the best rate for the customer). But the money exchanged through banks is better protected against counterfeiting than money exchanged on the street.

Over the counter conversions may still incur a commission or a fixed fee. Most banks operate within business hours and are closed on weekends and holidays. In addition, many remote resort villages do not have a local bank branch.

Alternatives for cash conversion all have distinct advantages in addition to their disadvantages and none of the alternatives stands out as the one cost-efficient solution that every tourist should adopt. A tourist may also choose to have the conversion performed in his home country even before arriving at the destination country. The next section analyzes Traveller's Cheques market as a classic payment option.

3.1.1.4 Traveller's Cheques

A traveller's cheque is a fixed-amount cheque with denominations of 20, 50, or 100 of the designated currency. They are used in a way similar to personal cheques except that the value of the cheque is pre-printed and is issued in a foreign currency. The foreign exchange is handled only by the issuing institution as these cheques are printed before the vacation.

The market volume for traveller's cheques has been declining with the widening use of electronic payment methods. According to gocanada.com, an informal survey of Canadian tourist destination cities shows that visitors rarely present traveller's cheques, opting for debit cards over credit cards and cash for smaller purchases before reaching for the traveller's cheques. Major traveller's cheques are still accepted by every hospitality business in Canada but Canadian banks and credit unions note that both the sales of traveller's cheques and

requests for cashing them have fallen off substantially in the recent years (Go Canada, 2006).

The main advantage for traveller's cheques is they can be replaced if they are lost or stolen, as long as the receipts are kept separate from the unused cheques and kept up to date with the ones that have already been cashed. This characteristic of travel cheques indirectly provides strong discipline over the expenditure and could be safer than cash which is untraceable. In addition, Visa offers 24hours / 365 days a year multi-lingual customer support not only for the customers who use traveller's cheques but also for the merchants and institutions that accept cheques.

American Express Traveller's Cheques enjoys a strong top spot on traveller's cheques market. Thomas Cook holds a very strong second place in popularity, especially for those planning vacations from Europe, while Visa Cheques rely on the success of their credit card to carry their market share. All three are accepted equally in Canada, especially if they are in Canadian funds.

The market share decline of Traveller's check symbolizes the end of a classic era from the payments industry. Methods for "paying for goods and services abroad" have evolved from cash carrying to safer non-cash (paper) alternatives and ultimately are transforming into plastic card payments and other electronic payment methods.

3.2 Currency Conversion Alternative to Credit Cards

The type of payment preferred for goods and services purchased abroad, as explained in the previous section, has evolved and is various. However, whatever choice is made it is associated with a very limited number of alternatives for the currency conversion aspect of the transaction.

The analysis shows that the credit card market is very large in size and continues to expand at the expense of other payment alternatives. Revenues from currency conversion services provided by credit card associations are also increasing in proportion with the market expansion. Prior to DCC service, credit card associations had the monopoly on the currency exchange service. As a result, the monopoly situation not only delayed the conversion, but locked the card owner to a rate that was not available to them during the transaction and was potentially more favourable to the card issuer and the credit card association. This fact represents a major deficiency in the procedure from the customer perspective.

Dynamic Currency Conversion is presented as a solution that provides card holders with the currency exchange information during the transaction. DCC itself is not a method of payment but rather a currency conversion service. DCC has a market only if the customer chooses to make a payment with credit card. In this sense DCC service is depended on credit cards.

According to Barry O'Sullivan, International Sales Manager of Fexco DCC Services, 95% of the currency conversion services for credit card transactions are still provided by credit card associations. An official publication by The Nilson Report states that the annual currency conversion revenue of Visa for the year of 2004 totalled to 424 Million USD. Even though DCC revenues are still tiny compared to Visa's total revenue, the market potential is large for a smaller competition and is constantly expanding. Mr. O'Sullivan indicates that the DCC volume is expanding at a rate that almost doubles every year. (O'Sullivan, 2006)

Comfortable market volumes attract companies to this relatively new market. Due to the international nature of the business, companies that offer DCC service usually have presence in multiple countries. The next section provides a competition analysis of global DCC providers.

3.3 Competition Analysis

This section provides the reader with an analysis of the major DCC providers around the world. A basic research of Dynamic Currency Conversion (DCC) market reveals that the technology driving the DCC operations is only available through a handful of large electronic payment companies which are referred to in this section as *Technology Providers*. Other companies that advertise their DCC service are either a branch of the mother company registered in another country or a strategic partner that uses the technological framework of a technology provider. Table 3-4 is a summary of the service provided by competitors and their individual global influence zones.

DCC Competitor Analysis provides an illustration of the companies competing for the DCC market. The following table analyses the Technology Providers worldwide and significant partnerships and affiliates that are active in North America. The research concentrates on companies that are active in countries that have a large volume of credit card expenditure and whose currency is one of the major players in the international tourism industry[9].

[9] Major currencies recognised and accepted worldwide are US Dollars (USD), British Pound (GBP), Euros (EUR), Japanese Yen (JPY), Canadian Dollars (CAD), and Australian Dollars (AUD).

Table 3-4 DCC Providers[10]

Competition	Establishment & Headquarters	Operations	Currencies	Other Products
FEXCO dynamic currency conversion	Fexco 1981, Ireland Owned with US-based First Data Corporation. www.fexco.com www.fexcodcc.com	• UK • Spain • US • Scandinavia • UAE, Dubai • Australia	Major currencies	• Western Union Money Transfer • Stock broking • VAT Refunds • International Corporate Payments • Travel Related Services
Planet PAYMENT	Planet Group, Inc 1999, NY. USA http://www.planetpayment.com/	• US • EU • Hong Kong • Singapore	Major currencies	Provides a service called FX Assured which guarantees the best conversion rate available for multinational businesses.
Shift4 Enterprise ePayment Solutions	Shift4 Corporation Las Vegas, USA http://www.shift4.com/DCC.cfm/	• US	Major currencies	Offers customised real-time electronic payment service named $$$ ON THE NET, first offered in 2000. Partners with Planet Payment on DCC.
CHASE Paymentech	Chase Paymentech TX, USA http://www.paymentech.com/ Canadian Affiliate www.paymentech.ca	Worldwide	125 currencies offered by Visa	Processes approximately 13.1 billion transactions annually with more than $500 billion in annual bankcard volume in both the United States and Canada.
CyberSource	CyberSource Corporation, 1996 CA, USA http://www.cybersource.com/	• US • UK • Japan	Major currencies	Offers electronic payment and card-not-present fraud detection technology. Currency conversion and exchange rate management is provided via integration with E4X Inc.

[10] Republication of the company logos is permitted for non-commercial use under the terms of their respective open source licenses.

Competition	Establishment & Headquarters	Operations	Currencies	Other Products
NOVA INFORMATION SYSTEMS	NOVA Information Systems ATL, USA http://www.novainfo.com Subsidiary of U.S Bancorp. NOVA Canada in Toronto.	• US • EU	Currencies offered by Visa	Offers DCC service since 2001. Specializes in providing credit and debit card payment processing, electronic check conversion, related software applications in the U.S. and in Europe through EuroConex.
3C INTERNATIONAL	3C Communication http://www.3cint.com/dynamic-currency-conversion.php 3C Canada	• North America • EU • Middle East	Major currencies	Offers DCC solution if the establishment uses Micros Fidelio Opera. (MICROS Systems, Inc. is a developer of enterprise applications serving the hospitality and specialty retail industries exclusively.

The research of major DCC providers reveals that the companies listed above were involved with global currency exchange or international banking services before they decided to offer DCC. Therefore DCC is regarded as an extension of the company's present Foreign Exchange (FOREX) product line.

The DCC providers listed above support multiple branches located around the world. This is mostly due to the fact that the global currency demand powered by the increasing global commerce necessitates the presence of currency conversion companies on multiple continents and more importantly on multiple time-zones. Multiple branches exist due mainly to other global services that the company offers, and not solely to support DCC services. This is also true for Canadian branches of the companies. Business models of some of the companies reveal that their presence in multiple locations around the world could be misleading as to their strength with DCC service. The number of branches is not a leading indicator of a DCC company's net worth.

The competition for DCC market share is fierce in Europe, where DCC companies took off much earlier than they did in the US. The most well known

DCC provider in Europe is Fexco which is located in Ireland. The company is responsible for pioneering work on DCC business and it was taken over by US-based First Data Corporation. All major DCC provider companies are now either owned by an American company or have their headquarters in the US. This is due to the fact that US tourist market is the largest in the world and the volume of credit card transactions in the US is unmatched by any other country.

Major DCC providers however see Canadian market potential not as deep as that of the US market. Consequently they have given their priority to an investment that targets the US market. DCC service in Canada is only available in large cities of Ontario with very small scale operations. There are no technology providers based in Canada and the companies that are listed in the above table as located in Toronto are subsidiaries of larger companies based in US. Furthermore, there is no DCC service offered in BC or any other part of Canada. This fact sets up an excellent "First to Market" entry opportunity for Hyperwallet. Weak or non present competition is also an opportunity for Hyperwallet to be at a commanding seat as a dominant player when it comes to establishing Canadian industry standards for the business in the future.

3.4 Conclusion

Chapter three concludes that electronic payment alternatives headed by credit cards increasingly dominate the foreign tourism market. DCC is a currency conversion alternative attached to credit card transactions and DCC providers are aiming for a larger share from a market revealed by Visa to be 424 Million USD in size in 2004. This analysis has found out that DCC service was originated and institutionalised in Europe but in the recent years US companies are starting to take over. However, despite its close proximity to US, none of these companies have undertaken a serious investment in the Canadian market. If Hyperwallet sees the market conditions fit for an introductory, it would enjoy a "First to Market" advantage. The next chapter presents how DCC works and analyses Hyperwallet's DCC service with Visa's and competitors'.

4 DCC BY HYPERWALLET

The aim of this chapter is to present the potential forecasted by the technological and procedural advances in DCC business brought by Hyperwallet. The introduction of DCC service to the market involves a number of procedural changes in the way that credit card transactions are handled. At the end of the chapter, the reader will have a better understanding of the procedural changes that are brought by current DCC providers, and further advances proposed with the introduction of Hyperwallet's DCC service. The causes and motives behind the procedural changes are analyzed in the last section in order to forecast the potential that DCC represents for Hyperwallet.

The first section provides diagrams portraying current steps followed by Visa, and is followed by the second section that analyzes the procedural deviations from Visa's procedure by current DCC providers. The third section provides the changes proposed by Hyperwallet. These sections form the background for the next section that analyzes the current fee structure applicable to credit card transactions that involve foreign exchange. This section also explains the reasons behind Visa's restructuring and also forms the basis for the next chapter which analyzes the negative impacts of this restructuring on current DCC providers. To prevent any confusion with the three different procedures presented in this chapter, section 4.6 presents a practical example of the same $100.00 worth credit card purchase from all three perspectives. The final section organizes the information presented in the chapter to clarify why DCC proposed by Hyperwallet is advanced enough to be considered a second generation in DCC business.

4.1 Current Procedure with Credit Card Payments

A credit card is issued with a base currency for its transactions. If a different currency is not specifically requested by the card holder, that currency is the local currency of the country the credit card is issued. When a credit card is used across borders, the transaction requires a currency conversion. The goods and services provided by the merchant are priced at the local currency whereas the credit card to be used has a different base currency. If the customer chooses to make the payment with the credit card, credit card companies intervene and handle the currency conversion for the transaction.

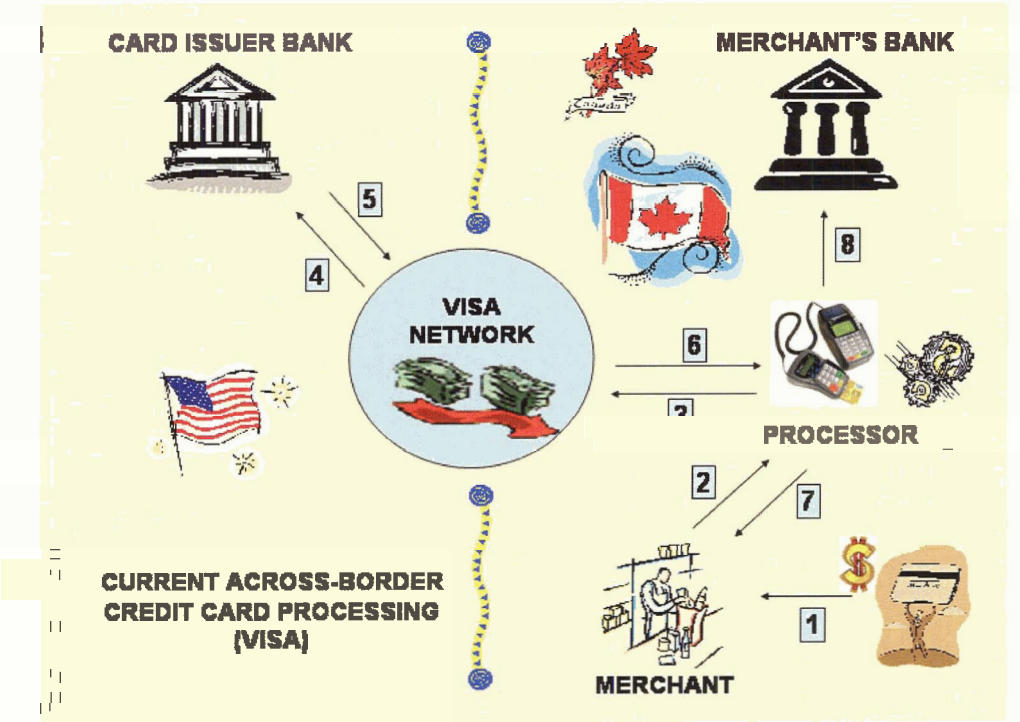
The currency rates for the daily cross-border credit card transactions are decided by the credit card companies. This process does not take real-time open market currency conversion rates as basis. Instead, rates applicable are decided at the end of the day of the transaction. Currency rates are known for their potential for showing considerable fluctuations within the same day. In such cases, adjustments to the rates applicable to transactions that would favour the credit card companies are not uncommon.

The card holder on the other hand receives the notification of the conversion with the end-of-month credit card balance statement. Prior to that statement it takes a great amount of time and effort on behalf of the card owner to find out what the transaction would actually cost. Hence the current procedure creates uncertainty for the cardholder as to the total cost of their purchase.

The following figure breaks down the steps followed by Visa to complete an outstanding across-border credit card transaction as it is today. The figure is split into two from the centre line with each side representing a different country. For demonstration purposes, the customer presenting the credit card is from the US making a purchase in Canada. Visa network, represented in the middle of the figure, is an electronic global transaction processing network that is bound by no geographical border. Visa network handles an average of more than 100 million

transactions in a single day, and settles as much as US$5 billion in payments (Visa Corporate, 2006).

Figure 4-1 Current Across-Border Credit Card Processing



1- The customer making a purchase is in Canada using a credit card obtained from a US Bank with the base currency USD.

2- The merchant runs the credit card though the POS processor supplied by the local bank.

3- In order to confirm the balance needed to complete the transaction, POS Processor generates a transmission requesting a balance check of the credit card by the Visa. The transaction hits the Visa Network (VN) from the Canadian side of the border.

4- Using the first six digits on the credit card Visa identifies the issuing bank. As the base currency is different from the currency of the transaction, Visa

schedules the transaction for a currency exchange with the rate that will be determined at the end of the business day.

Figure 4-2 Credit Card Numbers

5- The balance required for the transaction is confirmed by the issuing bank.

6- The confirmation is transmitted back to the processor to finalize the transaction.

7- The merchant exchanges his goods or services.

8- At the end of the business day, POS transmits the day's outstanding credit card transactions to the merchant's bank to be processed.

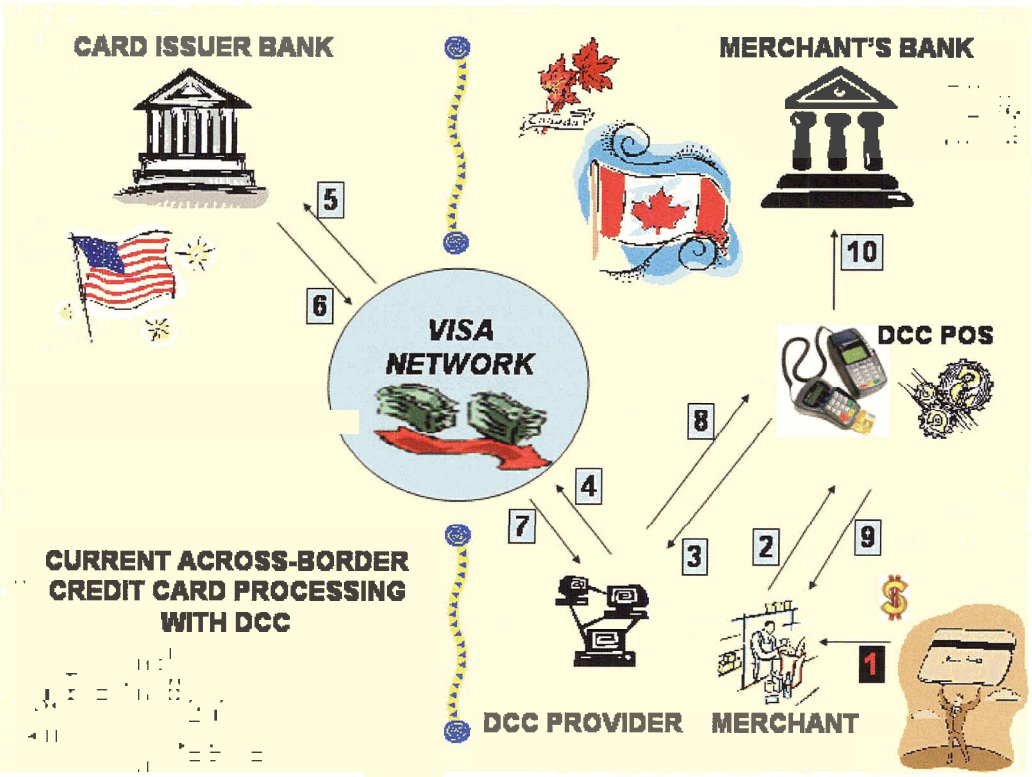
Even though the entire authorization process, when done electronically, takes less than two seconds, Visa finalizes the conversion rates of the day following Step 8.

4.2 Current DCC Procedure for Credit Card Payments

Dynamic Currency Conversion is a service in which a credit card transaction may be converted in real time, at the point-of-sale, from the currency in which the merchant offers its goods into the currency in which the customer's credit card is billed, all with the customer's consent.

Dynamic Currency Conversion aims to undertake the currency conversion of the transaction on the spot with the real-time rates. The conversion rates used are intended to be slightly more competitive than the rates used by credit card companies. Following figure presents the steps followed in a transaction where the currency conversion is handled by the DCC provider.

Figure 4-3 Current DCC Procedure

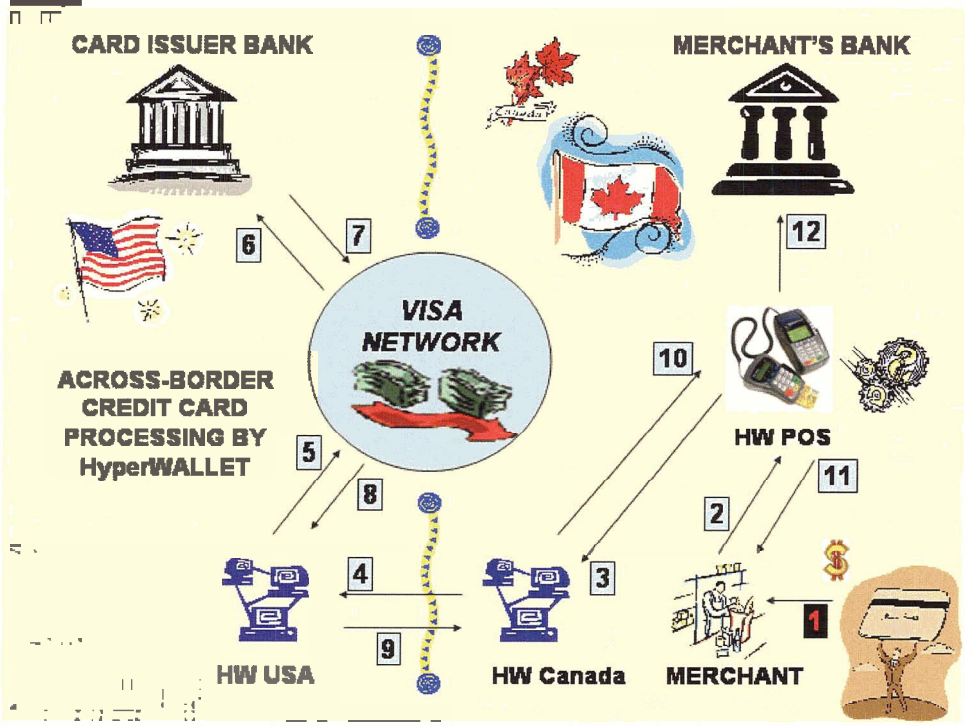


The main difference from the previous figure is that the POS device is now provided by the DCC provider and is calibrated so that it transmits the transaction to the DCC provider's server instead of the Visa network. With the current status quo, the currency conversion is handled before Visa network is presented with the transaction request. This procedure does not prevent Visa from applying a 1% International Service Assessment fee and the issuing bank from its own foreign exchange fee. These two fees are in addition to any fee added by the DCC provider.

4.3 DCC Procedure Proposed by Hyperwallet

DCC service proposed by Hyperwallet also handles the foreign exchange for the transaction before presenting it to the Visa Network. The revolutionary aspect of the proposed procedure lies in its rerouting capabilities. The new process requires presence by the DCC provider in both sides of the border and the transaction request is rerouted from the merchant's country to the cardholder's country electronically. Following figure breaks down DCC procedure proposed by Hyperwallet.

Figure 4-4 DCC Credit Card Processing by Hyperwallet



1- The American consumer visiting Canada chooses to make a payment using a credit card obtained from a US Bank with the base currency of USD.

2- The merchant runs the credit card though the POS processor supplied Hyperwallet.

3- In order to confirm the balance needed to complete the transaction, POS Processor generates a transmission requesting a balance check of the credit card and electronically sends to Hyperwallet Canada.

4- Using the first six digits on the credit card, Hyperwallet identifies the issuing bank as a Canadian bank and since the transaction involves a currency conversion from CAD to USD, it retransmits the request to its US branch using its own network.

5- Hyperwallet US determines the amount of USD funds required to fill the transaction that arrived in CAD. The transmission then hits the Visa network from the Canadian side as if the transaction request came from somewhere on US soil.

6- Visa requests an account check from the Issuer in the necessary amount.
7- Issuing bank confirms the balance.
8- Visa transmits the confirmation and approval to finalise the transaction.
9- Confirmation retransmitted across the border to Hyperwallet Canada.
10- The confirmation is transmitted back to the POS processor to finalize the transaction.
11- The merchant exchanges his goods or services.
12- POS transmits the day's outstanding credit card transactions to the merchant's bank.

The balance check of the card holder before the approval of the credit card transaction is performed by Visa network. Currently this constitutes the only constant within the sequence that cannot be altered. Any transaction request coming from an abroad country is automatically scheduled for a currency conversion and incurs fee charges by both Visa and the card issuing bank. DCC service by Hyperwallet is designed to prevent Visa Network from identifying a transaction as coming from a country other than the home country. Hence the currency conversion is performed by DCC provider before the balance check request and the request is submitted to Visa network from the domestic side of the border.

By rerouting the transaction, Hyperwallet performs a defensive manoeuvre against Visa's ISA fee and hence wins a cost advantage with the rest of the DCC providers. Next section presents what this advantage means by analyzing the fee structure in detail.

4.4 Fee Structure

The fee attached to cross-border credit card transactions is the sum of two fees applied by two separate institutions: one by issuer bank and the other by Visa. These separate fees are mostly listed as a total in the monthly balance statements provided to the cardholder.

First service fee is charged by the issuer bank for the Usage of its credit card for a good or a service priced in a foreign currency. Table 4-1 is a list of foreign currency transaction fees applied by Canadian Financial Institutions. The largest Canadian Banks have a consensus on the percent fee charged being 2.5%. Looking at the banking system as a whole, the fee charged ranges from 1.8% to 2.5%.

Table 4-1 Credit Card Fees – Financial Institutions in Canada

CREDIT CARD FOREIGN CURRENCY TRANSACTION FEES[11]		
Issuer Financial Institutions	**Card Type**	**Fee %**
Alterna Bank	All Cards	2.5
Alterna Savings	All Cards	2.5
Amex Bank of Canada	All Cards	2.20-2.5
BMO Bank of Montreal	All Cards	2.5
Canadian Tire	Standard	2.5
Capital One Bank	Gold, Platinum	2.5
CIBC	All Cards	2.5
Citibank Canada	All Cards	2.0
Citizens Bank of Canada	All Cards	2.0
Coast Capital Savings	All Cards	1.8
Desjardins	All Cards	1.8
Diners' Club International	Platinum	2.0
Home Trust	All Cards	2.0
HSBC Bank Canada	All Cards	2.5
Laurentian Bank	All Cards	2.5
MBNA Canada Bank	All Cards	2.5
National Bank	All Cards	2.5
Peoples Trust	Secured	2.5
President's Choice Bank	Standard	2.5
Royal Bank	All Cards	2.5
Scotia bank	All Cards	2.5
Sears Canada	Standard	2.5
TD Canada Trust	All Cards	2.5
Vancity Credit Union	All Cards	2.0

[11] As of January 2006

Fees applied by US financial institutions are similar to their Canadian counterparts. Consumer-action.org issued the following table in its 2005 credit card survey which lists the fees charged by US banks (Consumer Action, 2005). The percentages shown include the 1% fee that MasterCard-Visa charges. The banks listed with "no fees" absorb the MasterCard-Visa 1% fee and do not pass it through to cardholders. All other surveyed banks pass through only the 1% fee originating from Visa & Mastercard. Larger US banks reach a consensus on the fee slightly higher than Canadian banks at 3.0%. Table 4-2 presents a summary of rates applied by major US Banks.

Table 4-2 Credit Card Fees – Financial Institutions in US

Banks	Fee
Bank of America	3%
Cambridge Bank and Trust	
Citibank	
Citizens Bank	
Commerce Bank	
First National Bank of Omaha	
JP Morgan Chase	
MBNA	
Metropolitan National	
National City Bank	
Rainier Pacific Bank	
US Bank and Wells Fargo	
BB&T Bank	2%
Helena National Bank	
Juniper Bank	
Pulaski Bank and Simmons First National Bank	
American Express	2% *
Amalgamated Bank	No Fees
BMW Bank	
Capital One	
Discover and Tompkins Trust Company	
*Note: American Express, not affiliated with MasterCard and Visa networks, charges a 2% fee.	

Data Source: Consumer-action.org

Consumer-action.org issues an annual credit card survey of 140 banks and the fees and other costs associated with credit cards. According to a recent

report, from 2003 to 2004, the number of surveyed banks adding their own foreign currency conversion charges grew from 17 to 26 (Gilden, 2005). This report indicates that commercial banks are not planning to lower their fees on foreign credit card transactions.

A second service fee is the International Service Assessment fee charged by Visa. Until 2003, Visa charged its 1% fee to any transaction that involved currency exchange. Despite some criticism raised by locals making online purchases with their credit cards from another country, transactions eligible for this fee were overwhelmingly geographical cross-border transactions.

DCC service arrived as a major threat to Visa's revenue model. Since DCC operator handled the currency conversion for the transaction, the cross-border transactions began reaching the Visa network with the same currency as the credit card is issued with. Pre-converted transactions were not compatible with Visa's fee structure.

As a defensive manoeuvre against the decision in Schwartz vs. Visa law suit in California and to better cope with increasing competition brought by the DCC providers, Visa decided to change its fee structure and started to charge its 1% fee to any transaction detected as cross-border regardless of its currency.

In summary, the fee applied to cross-border transactions are the sum of two fees, one applied by the issuer and other by Visa. Bank fee ranges from 1.8% to 3% and only a few institutions process the transactions without a fee. The analysis indicates that more banks are applying higher percentages of fees to transactions that involve a foreign exchange. Visa on the other hand charges the same 1% fee under a different name and structure. The new fee is applicable to any abroad transaction regardless of the currency of the request. Next section analyzes the impacts of fee restructuring on classic DCC providers.

4.5 Visible Impacts of Visa's Policy Changes

The April 1, 2005 decision of "Schwartz" case legitimized the rights of third parties to the currency conversion part of the credit card transaction process. In a public statement by Visa International's corporate website Visa acknowledges the merchant's right to convert the currency and similarly recognizes the cardholder's right to have their credit card currency conversions processed through DCC providers (Visa FAQ, 2006).

However the new fee structuring kept Visa in business as strong as it was before the court decision. The new structure is a major setback to current DCC providers because the old structure helped save Visa's 1% as the transaction no longer needed a conversion. Any percent of the saved 1% could have in return been used to promote the service as a cheaper alternative to Visa's foreign exchange service. As a consequence, If DCC providers add their own percent fee to the transaction as a third fee it would possibly make the service more expensive than Visa's service in most cases.

The threat could be more severe in urban locations. Currency conversion alternatives are widely available in most urban locations thus the profit margin of DCC service would be potentially narrow. Any unforeseen extra cost to the system would seriously challenge the profitability and sustainability of DCC service. In practice, the new structure repulses the threat from DCC providers who organized their marketing strategy towards being a cheaper alternative to Visa's foreign exchange service. Next section presents that Hyperwallet's DCC structure is designed to be immune to this problem.

4.6 Revenue Structure

This section tabulates revenues generated by a credit card transaction that involves currency exchange. For simplicity, the price for the good or service purchased by the cardholder is accepted as $100.00. Table 4-3 reveals the standard procedure followed by the credit card associations.

Table 4-3 Existing Visa/MasterCard Method

Existing Visa/MasterCard Method			
	COLLECTED	**PAID**	**NETTED**
Issuing Bank	$5.80 4.0% FX fee from cardholder plus 1.8% interchange from the association	$1.00 1.0% ISA fee to bank card association	$4.80
Acquiring Bank	$2.00 2.0% discount fee from merchant	$1.85 1.85% interchange and assessment fee to association	$0.15
Bank Card Association	$2.85 1.0%fee from the issuer plus 1.85% assessment and interchange fees from the acquirer	$1.80 1.80% interchange fee to the issuer	$1.05
Merchant	$100.00 from cardholder	$2.00 2.0% discount fee to acquirer	$98.00
Cardholder	The service or merchandise	$104.00 4.0% FX fee to the issuer $100 to the merchant	$104.00

The issuing bank benefits from the current procedure the most. The merchant is the only negative earner among the parties who have a stake in the process. Following table breaks down the revenues shared with DCC procedure. A $100 purchase with Visa's service ends up as $104.00 before it is converted to cardholder's currency. Table 4-4 below shows the same purchase using current the service of a DCC provider.

Table 4-4 Dynamic Currency Conversion

Dynamic Currency Conversion			
	COLLECTED	**PAID**	**NETTED**
Issuing Bank	$2.80 1.0% fee from cardholder plus 1.8% interchange from the Association	$1.00 1.0% ISA fee to bank card association	$1.80
Acquiring Bank	$6.00 4.0% FX fee from cardholder plus 2.0% discount fee from merchant	$3.85 1.85% interchange and assessment fee to association plus 2% fee to DCC provider	$2.15
DCC Provider	$2.00 2.0% FX fee from the acquirer	$1.00 1.0% fee to merchant	$1.00
Bank Card Association	$2.85 1.0%fee from the issuer plus 1.85% assessment and interchange fees from the acquirer	$1.80 1.80% interchange fee to the issuer	$1.05
Merchant	$101.00 purchase amount from cardholder plus 1% fee from DCC provider	$2.00 2.0% discount fee to acquirer	$99.00
Cardholder	The service or merchandise	$105.00 1.0% fee to issuer 4.0% FX fee to acquirer $100 to the merchant	$105.00

The difference is that DCC provider in the second table shares the profit with the merchant. Merchant ends up gaining half of its loss due to acquirer fee. Acquiring bank shows a jump in its gains and the issuing bank is the net loser. This procedure however ends up $105.00 as Visa's fee is still there renamed as ISA. Table 4-5 shows the same purchase done through Hyperwallet's service.

Table 4-5 Dynamic Currency Conversion by Hyperwallet

Dynamic Currency Conversion by Hyperwallet			
	COLLECTED	PAID	NETTED
Issuing	$1.80 1.8% interchange from the Association	$0.00	$1.80
Acquiring Bank	$6.00 4.0% FX fee from cardholder plus 2.0% discount fee from merchant	$3.85 1.85% interchange and assessment fee to association plus 2% fee to DCC provider	$2.15
DCC Provider	$2.00 2.0% FX fee from the acquirer	$1.00 1.0% fee to merchant	$1.00
Bank Card Association	$1.85 1.85% assessment and interchange fees from the acquirer	$1.80 1.80% interchange fee to the issuer	$0.05
Merchant	$101.00 purchase amount from cardholder plus 1% fee from DCC provider	$2.00 2.0% discount fee to acquirer	$99.00
Cardholder	The service or merchandise	$104.00 4.0% FX fee to the acquirer $100 to the merchant	$104.00

In this example, the purchase total is brought back down to $104.00 as the rerouting got rid of Visa's fee. Issuing bank and Visa are the two losers from the procedure and Hyperwallet, the merchant, and the acquiring bank end up net winners.

4.7 Second Generation in DCC

The model proposed by Hyperwallet can be considered the second generation of DCC. This is mostly because it brings an advanced technological architecture which counters Visa's defensive manoeuvres effectively. In doing so it positions itself at a cost advantage with the rest of the industry.

Hyperwallet plans to perform the currency conversion, reroute the transactions from merchant's country to cardholder's country, and hit the Visa Network from that side of the border. Such rerouting would eliminate the possibility of Visa Network identify the transaction as coming from a country other than the cardholder's. Thus the transaction would be treated as a regular credit card purchase within the country with the domestic currency. Such rerouting would save the transaction from Visa's fees analyzed above.

The rerouting is a patentable procedure. It would be an application performed for the first time. If patented and thus protected against adoption by competitors, it would bring a great competitive advantage to Hyperwallet and would draw the attention of major credit card associations. Rerouting technology would set the bar ahead of the rest and therefore could be considered the start of a new generation of Dynamic Currency Conversion.

4.8 Conclusion

The new fee structure by Visa accepts all transactions that reach its network from a country other than the one where the credit card in use is issued from as eligible for its ISA fee. DCC providers had planned their service so that the original 1.0% currency conversion fee would not be applicable. Thus current DCC providers are unable to provide their service as a cheaper alternative to Visa because not only they could get rid of Visa' fee but their profit percent had to be added as a third fee to the transaction.

In summary, under current cost structure by Visa, on average a $100.00 purchase at a foreign country would become $102.70 - $104.00 before it is converted to the base currency of the credit card. DCC providers are unable to be a cost efficient alternative to credit card association's service. Instead they offer a rate competitive at best and the convenience of transparency of the transaction to the cardholder.

The DCC proposed by Hyperwallet would reroute the transaction from the merchant's country to cardholder's country through its own network and thus nationalizing the transaction. As a result the transaction cannot be treated as one performed in a different country. The failure to act on the transaction as foreign brings the opportunity of saving the fee that would normally be attached to it by Visa. The new cost structure would leave Hyperwallet in an advantageous position relative to other parties including other DCC providers. More importantly, it reduces the uncertainty over the actual cost of the credit card transaction because the total cost of the transaction is presented to the customer in real-time with no hidden fees to be added later on. As a result, Hyperwallet not only provides the convenience that DCC promises to the cardholder but also a cost advantage through its technology capability.

From a marketing point of view, DCC service may be unattractive for some consumers as the amount they are paying is above than the value of the merchandise and they are made aware of this fact up front. With the current system, the extra fees attached to the transaction may go unnoticed if the consumer is not interested in looking at the monthly balance statement. However, the validity of such threat could be overcome by an effective marketing strategy.

Given its competitive cost advantage the alternatives for implementation are numerous. Hyperwallet would have the option of providing the service as a cheaper alternative; share its profit with merchant and/or the cardholder in order

to achieve faster market adoption; or provide the service with the same structure and hold on to major part of the profit generated from the transaction; or any combination of the above.

5 HYPERWALLET'S CHALLENGE

The aim of this chapter is to analyze whether Hyperwallet is capable of running a DCC business. The conclusion is drawn from a comparison of Hyperwallet's internal capabilities and the requirements necessary to run DCC.

First section is the internal analysis of Hyperwallet. This section not only analyzes the internal capabilities but also assesses whether an investment in the DCC business and the necessary technology to operate it would be in line with Hyperwallet's current corporate and technical structure. The following section provides an in depth study of the minimum capability requirements that need to be possessed by a company that intent to run a DCC business. The conclusive section of this chapter brings these two sections together in order to clarify whether Hyperwallet is capable of running a DCC operation.

5.1 Internal Analysis of Hyperwallet

The first section of internal analysis overviews the company in 7 sub-sections and the second part analyzes Hyperwallet's current technology with a focus on the leading technology platform, HyperPAY.

5.1.1 Hyperwallet Corporate Overview

5.1.1.1 The Company

Hyperwallet Systems Inc. is a Vancouver, BC based privately owned financial services technology company founded in February 2000 with a mission to develop intuitive, accessible and low-cost payment solutions for the on-line and wireless markets. Hyperwallet's technology and settlement services power a

range of electronic solutions for both financial institutions and independent financial service operators, including point-of-sale, loyalty, payroll, social assistance, remittance, and stored-value card programs. Hyperwallet also licenses its solutions to financial institutions, financial service providers and provides a range of electronic payment processing services to individuals, businesses and corporations.

Hyperwallet's services are offered through its proprietary Java and XML HyperPAY platform. The HyperPAY Platform is a highly functional electronic payment processing platform that delivers branded online payment and debit card products and services to financial institutions, businesses and individuals. The current products developed for the HyperPAY platform include electronic wallets, issuer card management systems and merchant payment and reconciliation systems.

With an established customer base and improved technology solutions Hyperwallet has become a recognised brand name in e-payments industry and would no longer be considered a start-up company. The company has reached business volumes large enough to attract much larger companies as business partners on selected investment opportunities. In line with the growth in business volumes, the company human resource base is expanding at an accelerated pace. Such healthy growth puts Hyperwallet in a strong position if it chooses to seek outside financing for an investment.

5.1.1.2 Financial Resources

The revenues for FY'06 (ending March 31, 2006) were $1.3M. The company is at a break even with current revenue level. For the FY'07, Hyperwallet is targeting $3.0M in revenues. Hyperwallet has completed investments on technology fixed assets such as business servers and the

projected jump in the revenues for the upcoming fiscal year also corresponds to a jump in the profits.

5.1.1.3 Organizational structure

Hyperwallet would be considered small in scale employing 14 full-time employees. The company is owned by its founder, Lisa Shields. Hyperwallet is governed by its owner, operations manager, and the sales manager.

Hyperwallet possesses the positive aspects of a small company. Decision making is fast, operations are smooth and dynamic, and the technology of the company is easily adaptable to customer demands. The organization is horizontally structured and most departments have minimal human resource employed. The only exception is the technology department which enjoys almost half of the company personnel working both to upgrade the technology and to customize it to suit individual customer demands. Technical operations are run directly by the owner who also has technical background and is a veteran with electronic payment technologies. Current technology department employees and the owner of Hyperwallet together form a competitive human resource basis for a possible DCC expansion in the future.

5.1.1.4 Current Products and Revenue Models

Hyperwallet's main product is its proprietary Java and XML HyperPAY multicurrency banking platform. HyperPAY supports applications such as electronic wallets, issuer card management systems, and merchant payment and reconciliation systems. HyperPAY is capable of integrating with customer websites, and can be scaled to adapt to 3rd-party solutions. Hyperwallet generates revenues in three ways: transaction processing, professional services, and platform licensing:

Recurring transaction processing and foreign exchange revenue is generated by individuals and businesses that utilize Hyperwallet's online websites and debit card services. Hyperwallet provides debit card solution to companies and individuals and generates monthly revenue through its usage. Hyperwallet's professional services revenue consists of software and interface development fees for customized solutions based on Hyperwallet's platform. The third revenue model utilizes Platform Licensing revenue that consists of a one-time license fee, along with annual support and maintenance fees.

HyperPAY can be configured to support custom payment applications and Point-of-sale (POS) solutions to suit specialized processing and service delivery requirements. Through HyperPAY, Hyperwallet already has experience with generating foreign exchange revenue through debit and other non-credit card transactions. Revenue generated through DCC operations would be an extension of the same capability to credit card transactions.

5.1.1.5 Customers and Markets

Hyperwallet's web[12] service powers online payments and email money transfers for over 200 Credit Unions across Canada. The internet stored-value card management platform (HyperPAY) has been licensed by several independent payment network operators in markets including payday lending, international remittances, and online gaming. Alterna Bank of Canada has licensed the platform on an Application Service Provider (ASP) basis to provide instant-issue debit card services in the payroll and First Nations marketplaces. Additional customers for custom debit solutions include government benefit-delivery agencies, retail loyalty and discount program operators, and card-based money transfer services.

Hyperwallet's customer base includes Credit Unions, online merchants, commercial banks, government agencies, and Canadian First Nation

[12] www.hyperwallet.com

communities. An investment in DCC would add customers such as local merchants in tourist rich zones, online merchants, and hotels and restaurants. Hyperwallet's experience with platform licensing would also be beneficial if it chooses to expand its business through a network of subsidiaries.

5.1.1.6 Corporate Strategy

Lisa Shields, CEO of Hyperwallet, expresses Hyperwallet's corporate strategy as "to build a recognized name within the payments industry, synonymous with the highest standards of technology and services. Hyperwallet's focus remains on business development efforts on securing relationships with marquee organizations that process large volumes of payments, supported by a pricing and revenue sharing structure that provides incentives to Hyperwallet's partners to foster rapid end-user adoption of our systems" (Shields, 2006).

An investment to DCC technology would be in line with Hyperwallet's corporate strategy as it accepts merchants as business partners and shares the profit generated to promote greater end-user adoption.

5.1.2 Hyperwallet Technology Overview

Hyperwallet provides a versatile platform called HyperPAY as its main technology solution to its clients. The hyperPAY platform, first released in September, 2000, is a bank-grade account management and payment processing system. HyperPAY allows financial institutions and financial service providers to deliver customized, brandable electronic payment and card services to their clients.

The key advantages of the platform are:

- Versatile web payment applications and user interfaces
- Scalable, distributed technology architecture
- Interfaces to leading North American financial networks and services
- Multi-currency, real-time processing for all transaction types
- Flexible engine to support custom processing requirements

The hyperPAY platform provides account management function on a large scale and its main payment engine architecture provides the framework to enable a spectrum of multi-currency payment solutions, including P2P, B2C, B2B, e-money, bank to bank, wireless, and debit cards.

5.1.2.1 Technology Architecture

The hyperPAY Platform was developed using n-tier architectural approach. N-tier approach connects components such as web-clients, application servers, middleware software, and mainframe computers into a stand-alone system. The resulting system is fast and flexible enough to be configured to house any form of real-time payment technology. The platform's business logic is implemented in the Java programming language and is optimised for extensive use of web services for real-time financial interfaces.

Each instance of a hyperPAY platform can be configured as a stand-alone system, as a client application for a hyperPAY or foreign banking host, or as a semi-autonomous participant in a network of cooperating hyperPAY instances. This property makes it adaptable to a POS device.

HyperPAY Platform's transaction payment engine supports multicurrency processing with a built-in currency broker featuring configurable spreads and position monitoring. In addition, HyperPAY has numerous pre-built interfaces to

support payment exchange applications through financial payment networks, channels and service providers including Credit Card Gateways.

From a consumer's perspective, the system provides a fast and secure real-time payment solution capable of resolving multi-currency transactions, providing detailed transactional history and receipting, and other payment functions.

HyperPAY Platform's transaction payment engine is capable of settling the currency exchange requirements of its debit cards. DCC operations would require the same currency brokerage service interface as in debit cards. In addition, HyperPAY is capable of being linked to Credit Card Gateways so that it can be configured to process currency exchange through credit card transactions.

In summary, an investment in DCC would be compatible with Hyperwallet's corporate and the technology structure. In addition, DCC would not interfere or disrupt any of Hyperwallet's current businesses nor would it drain resources from other investments of the company. The revenue model for current products utilizes recurring transaction processing with a capability of settling foreign exchange for the transactions. DCC would work with a similar business model. The technology platform currently in use can also be calibrated to function as DCC capable POS device software. Lastly, the company is looking for business opportunities to expand and the management welcomes a possible investment opportunity targeting credit cards and foreign exchange markets together.

5.2 Requirements to Run DCC Business

This section provides the minimum requirements to run a DCC business. It is organized in three sub-sections. The first section studies the technological requirements of running a DCC service, while the second section analyzes the corporate requirements of doing so.

5.2.1 Technology Requirements to Run DCC Service

From a technological point of view, the requirements could be grouped under three fields: network, hardware, and software. Table 5-1 is a summary of the technology requirements.

Table 5-1 DCC Technology Requirements

	DCC Technical Requirements	HyperPAY
Network Side	Ability to Accept Standard Transaction Messages from the POS	✓
	Transaction Tracking System	✓
	Settlement Capability with the Merchant	✓
	Multi-Currency Transaction Capability	✓
Hardware Side	Network Certified POS Device	✓
Software Side	Software Custom Built to Support DCC Transactions	Needs Development
	POS Software Capable of Acting Both as a Standard POS and as a DCC POS Device if needed	Needs Development

Network side requirements involve regular transaction message streamlining capability between POS devices and the business servers. DCC

transaction messages are similar to regular transaction messages that are created for credit card transactions. Such capability demands that all DCC servers and POS devices should have fast and secure network connection.

The system also needs a Transaction Tracking System[13] (TTS) to support the messaging function in case the network fails temporarily during a transaction. The system should have reconciliation and reporting interfaces to support TTS. Once the transaction processing channels are secured, the system should have the settlement capability with the Merchant. In addition to the above basic network requirements, the network should have a multi-currency transaction capability. To complete multi-currency transactions, the system should be linked to a foreign exchange brokerage service in order to receive real-time conversion quotes.

On the hardware side, network certified POS devices would be required. A POS device is composed of the physical device and the software to operate it. The physical devices can be purchased off-the-shelf but they need to be network certified and capable of being modified for a DCC application.

The software side would require certain improvements and upgrades to the software used within POS devices. Most importantly, the software that manages the system should allow the POS device to act as an ordinary POS should the customer not consent to the use of a merchant's DCC service. The software installed in POS devices should be custom built and capable of running DCC applications.

[13] TTS is a system that protects data from corruption by backing out incomplete transactions that result from a failure in a network component.

5.2.2 Corporate Requirements to Run DCC Service

An investment in DCC, as in most investments, would require financial stability and credibility. The DCC provider should be able to commit necessary financial resources to afford new hardware installations, future human resource expansion, sufficient marketing support, and a cross border presence. If the company does not finance the investment through its own resources, then it would need to be financially credible in order to attract outside financing at a reasonable cost.

On the Human Resources side, a DCC investment would require expansion in various departments of the company. The addition of numerous individual merchants to the POS system would require additional technical and customer service personnel. In addition, an expansion of the sales and marketing team would be necessary.

Due to the nature of the second generation DCC service, a DCC operator would need a cross border presence along with a presence in the home country. This presence is necessary to enable the rerouting process of credit card transactions. The presence does not necessarily correspond to a manned operational office but rather to an office that can accommodate the DCC business servers. This is mainly because the cross border business servers can be operated remotely from the home country.

5.3 Hyperwallet's Readiness for a DCC Investment

Hyperwallet is sitting in a strong position with respect to its current network infrastructure. Hyperwallet's current debit card processing business already demands settlement capabilities with numerous individual clients and the transactions require currency exchange almost on a daily basis. An identical network system would be used with DCC operations where individual clients would be replaced by individual merchants. The Multi-Currency Transaction

capability gained through debit card processing is vital for DCC operations. In addition, the account reconciliation and reporting interfaces already in use by Hyperwallet would form the basis for settling end of day closings and periodic reporting of DCC operations. As a result, the new investment would only require an expansion to the system to include new customers, not a technology improvement or an upgrade.

The hardware side of the requirements pose the smallest obstacle to Hyperwallet. The additional network certified POS devices necessary can be purchased off the shelf as soon as the investment decision is approved. But Hyperwallet would need to upgrade or increase the number of servers it possesses in order to accommodate a heavier transaction volume in the future.

On the software side, however, Hyperwallet needs custom software development. There is no off-the-shelf software readily available on the market that can immediately support DCC operations. The HyperPAY platform processes electronic transaction messages that are similar to those used with DCC devices. As a consequence, operational software that powers the HyperPAY platform can be upgraded to operate DCC POS devices. In addition, the back up system used with the current payment platform system does provide a necessary cover for emergency cases such as those involving connection losses.

Therefore, it is recommended that serious effort should be placed into creating the software needed to run DCC operations. Hyperwallet's Human Resource structure supports software developers responsible for building, improving, and customizing the HyperPAY platform to suit customer needs. The software currently in use with HyperPAY is created with in-house capabilities and is upgraded often. Developers employed by Hyperwallet are qualified to upgrade the HyperPAY platform to suit DCC operations.

DCC requires software that is not readily available on the market. The main expenditure would therefore involve developing custom software to run DCC operations. The internal analysis chapter highlights the fact that the software used for Hyperwallet's other businesses is similar to DCC software in most aspects. In addition, the software in question is developed by an in-house team of developers and has been upgraded multiple times. As a result, it is reasonable to assume that the required DCC software can be built in house, which would in turn minimize the costs associated with the new investment. However, setting up a cross border presence represents an unavoidable expense. The cost associated with establishing a cross border presence would nevertheless still be reasonable compared to having to set a regular business office manned by personnel for day to day operations. This presence is only necessary for business servers as the technical operations can be monitored and run remotely from the main office. Establishing a presence in multiple countries would pose a major jump in the funding necessary even with a server-only configuration. However, in line with the scope justification in chapter one, Hyperwallet needs to establish a presence in the USA only.

5.4 Conclusion

Hyperwallet is capable of running a DCC business, and an investment in DCC technology would be in line with Hyperwallet's corporate strategy. Hyperwallet seeks to expand through recurring transaction processing businesses, and DCC represents an evolutionary improvement over the multi-currency transaction processing capability in the HyperPAY platform. Hyperwallet accepts merchants as business partners and shares the profit generated. With respect to a DCC initiative, this strategy would promote greater end-user adoption.

To conclude, Hyperwallet possess much of the corporate and technology requirements to run DCC operations. Hyperwallet's internal analysis reveals

compatibility with DCC requirements. As such, a major upgrade from their current structure would not be required. Thus on the financial side, the additional funding required for the new investment can be kept to a minimum. In addition, Hyperwallet's financial stability due to its recurring revenue model creates a positive outlook and high credibility if the company seeks outside financing from other financial institutions. Lastly, the missing technology is in line with Hyperwallet's current technology and the company is fully capable of building it in-house.

6 RISKS AND OPPORTUNITIES

This chapter explains the reasons why consumers prefer DCC service and the risks and threats that challenge its market growth. Information in this chapter is an important input to the final analysis and consequent recommendation presented in the next chapter.

Chapter six starts with a consumer behaviour analysis. This section includes reliable data on why and how often cardholders prefer DCC service when it is available. The data also represent a background for a feasibility study in the future. The second section analyzes the legality of the service with developments and settlements in 2003 taken as the pivot point. The next section presents a stakeholders' analysis. This analysis pictures the shift of power and interest among the parties related to electronic payment business with the introduction of DCC service. Performing this analysis is necessary for Hyperwallet to identify possible future allies and adversaries. The last section provides a risks and threats section that studies the major ways in which Hyperwallet's DCC service could be challenged.

6.1 Consumer Behaviour

This section analyzes the cardholder adoption of DCC service and the distinguishing features of the service that lead to high consumer consent to the service. Market data concerning individual companies are usually considered to be confidential figures and are not easily obtained. This section received relevant market data from two reliable sources: Nilson Report and FEXCO.

A recent Nilson Report article reports that 90% of cardholders choose to pay in their local currency up front (Nilson, 2003). This figure indicates that the potential end-user adoption for the new service is widespread. Figures received from FEXCO also reveal that preference is high, though not quite as high as those indicated by Nilson. Barry O'Sullivan stated that the customer preference for the new service is 80% in the non-card-present environment, or online markets (O'Sullivan, 2006). Merchant websites that integrate FEXCO's DCC service to their payment modules report that a majority of the customers would pay in their own currency when the service is provided to them. O'Sullivan indicates that the adoption rate falls to an average of 70% in hotels and restaurants. But the negative difference is not a result of poor quality DCC service. The exchange rates used in both examples are downloaded to POS from the same source. The reason for the difference is explained as "human intervention". Online payment modules do not require a salesperson presence to complete the transaction. The currency rate applied is downloaded in electronic environment and presented to the customer with speed. In some cases the process allows the customer to make comparisons between competing rates and provides information on the fees attached. In this environment, eight out of ten cardholders prefer to make the payment in their local currency. The service in hotels comes down to the training and willingness of the hotel receptionist to promote and market this new service. A higher adoption of DCC in hotels would require better and more widespread training of hotel reception and front desk personnel.

The two sources analyzed above provide an end-user adoption percent within the range of 70% to 90%. Such high figures are very promising for the future of the DCC service. O'Sullivan joins Nilson Report in reporting that the volume of credit cards transactions converted by DCC service doubles every year. According to O'Sullivan, high market growth rate is fuelled by three features of DCC: its cost structure, conversion rates, and convenience.

O'Sullivan argues that the current fee structure by Visa does not prevent wide adoption of the DCC service. The fee charged by Visa ranges from 2.7% to 4.0% depending on the fee attached by the issuing bank. The fee with DCC service is no more than 3.0% at all times. Therefore the fee structure is mostly competitive with Visa's and is better in some cases. Secondly, the conversion rate is competitive with the rate used by Visa most of the time. Clearly real-time rates offered to cardholders are better than the end-of-day rates determined by credit card associations. Lastly and most importantly, DCC service brings the convenience of transparent, informed transactions. With the DCC service the customer knows the "true value" of the merchandise. This aspect of DCC proves to be most appealing and influences customer behaviour toward greater adoption.

On the bass of the two separate sources, this analysis concludes that very high cardholder adoption of DCC service in hotels is possible provided that the service is marketed to the customer in an efficient manner. A proper marketing effort would require trained and motivated personnel. An even higher consumer adoption rate is achieved through eCommerce payment services, as the lack of "human intervention" is believed to be the cause for the efficiency. Cardholders' motives behind their preference for DCC service can be summarized into three underlying reasons. The first reason is a fee cost structure that is competitive with the one provided by the credit card association. It is important for Hyperwallet to know that DCC companies are able to compete with associations even with the unfavourable fee structure because the service proposed by Hyperwallet promises even better competitiveness. Secondly, a competitive if not better conversion rate promises that the cardholder would not be harmed by conversion rate fluctuations. Lastly, the convenience of knowing what the product or service will cost in full is the single most important reason fuelling greater adoption of DCC service.

6.2 Legal status of DCC

This section provides the reader with a summary of judicial developments that have made alternative currency conversion services for credit card transactions legal. It is important to look back and analyze the legal battles between consumer groups and credit card associations because the outcomes of these law suits have a direct influence over the credit card fee structures adopted by the latter. The fees applied by the credit card associations are an important input to profit calculations of DCC services. This study provides Hyperwallet with a background to better prepare itself for similar future law suits that could potentially cause another restructuring. The section is presented with a before & after approach with the developments of 2003 taken as the pivot point.

6.2.1 Background - Prior to 2003

Prior to "Adam A. Schwartz vs. Visa International", a California law suit, a foreign transaction fee charged by the associations was designed and implemented so that the fee would be paid by, but concealed from, cardholders. The fee was not separately itemized on the billing statement and this concealing caused harm to consumers and to the competition.

Before the court rulings, MasterCard and Visa charged a 1% fee called "Foreign Transaction Fee". Credit card-issuing banks tacked on a 1 to 2% fee for the same foreign currency transaction. That fee was in addition to a 1% currency exchange fee that Visa and MasterCard charged. Most consumers did not know about the extra fees because credit card companies did not include them as separate line items.

Adam A. Schwartz, a Californian resident, brought an action against Visa and MasterCard on behalf of the general public in February 2000 with the initial

claim filed in January 2000. The case was tried by the Superior Court of California, County of Alameda (Findlaw, 2003). The lawsuit alleged that Visa and MasterCard engaged in unfair and deceptive business practices such as:

- Charging an excessive currency conversion fee which constitutes gross overpricing, and
- Failing to adequately disclose the existence of the currency conversion fee.

A similar class action law suit was filed against American Express by Environmental Law Foundation[14] and Consumer Action[15], two non-profit organizations, on behalf of the general public on March 28, 2003. American Express, not affiliated with MasterCard or Visa, charged a 2% currency conversion fee, increased from 1% in 1999. The case was also accepted by the Superior Court of California, County of Alameda and the file included complaints similar to the earlier case (Consumer Action AMEX, 2003).

6.2.2 The Ruling

Following a period of litigation, and a six month trial, on April 1, 2003 a ruling of the court found Visa and MasterCard guilty of unfair and unlawful business practices regarding their provision of currency conversion services in connection with Visa and MasterCard branded credit card transactions made in foreign currencies by U.S. cardholders. Under the ruling, MasterCard and Visa were ordered to give rebates for the fees they collected from people who used their cards abroad since February 1996. The court ordered the defendants to properly disclose the fee in billing statements and solicitations, and to return over $800 million in fees to cardholders. Schwartz case decision was immediately

[14] http://www.envirolaw.org/
[15] http://www.consumer-action.org/

appealed by the defendants and a decision on the appeal has not yet been reached at the time of the writing of this project.

6.2.3 Situation Following 2003

The outcome of the case brought extreme financial burden to credit card companies. It also broke the monopoly over the foreign exchange involving credit card transactions provided that the fee structure applicable to the transaction is clearly provided to the customer. Visa and MasterCard were not expected to give up their currency conversion revenues because of a single court decision. An article in latimes.com states, "The 1% currency exchange fees provided Visa International with $424 million in revenue for the fiscal year that ended September 2004, nearly 30% of its revenue for the year, according to the Nilson Report, a credit card industry newsletter published in Carpinteria" (Gilden, 2005). In addition, the same article argues issuer banks are making a huge income from fees as fees generate about 19% of revenue in the credit card business.

An immediate outcome of the verdict was that Visa and MasterCard changed the way they disclose the 1% currency conversion fee in an attempt to clarify their policy to consumers. Effective April 2, 2003, one day after the decision, Visa announced that it no longer charges issuing banks the 1% foreign transaction fee. Rather than charging a one percent fee to handle currency conversions for foreign currency purchases, Visa introduced a one percent fee applicable any time the card is used abroad. The fee is called "International Service Assessment" (ISA). Visa International declares that the ISA is not a currency conversion fee but rather a charge to issuing banks when transactions use the global payment system and adds that it is not a charge to cardholders. Visa insists that it is the issuing banks that determine the cardholder pricing structure. But most banks pass the fee on to their customers along with a charge of their own, usually around 2.5% - 3.5%. Added together, most credit card

balance statements still list the charge as 2.5% - 4.5% occasionally without specifying what constitutes that total.

In summary, the 2003 "Adam A. Schwartz vs. Visa International" case settlement is accepted as the turning point for alternative credit card currency exchange services. As a result of the case, fees applied on credit card transaction are declared more transparently. In addition, Visa was forced to acknowledge the legitimacy of alternative currency conversion services, provided that the DCC rate is also transparent and that the card holder's consent is obtained before processing the transaction. However, the court decision achieved nothing towards the improvement of the fee structure in favour of the card holder. Foreign credit card transactions are still subject to Visa's 1% fee under a different name and an even larger percent fee is added on to every transaction by the issuing banks. The next section studies the power and interest shifts in the payments industry due to the introduction of DCC service.

6.3 Stakeholder Analysis

This section analyzes the changes in the balance of power and interest that define the current tourism market dynamics following the introduction of DCC service. The information can be used as input for other analyses in order to develop action plans to promote strategic alliances with other stakeholders, identify threats and risks, and create incentive programs to better market DCC services. The analysis starts by defining the key stakeholders and discusses the "before" DCC status quo. The analysis continues with the likely shift of power and interest in the credit card industry "after" DCC is introduced.

6.3.1 Stakeholders Interest Grid

The interest grid provided in Table 6.1 gathers and analyzes qualitative information to determine the stakeholders whose interests should be taken into

account when developing and/or implementing the DCC service. The stakeholders are categorised as Primary, Secondary, and External stakeholders according to their relevance, influence power, and interest upon the subject.

Table 6-1 Stakeholders Table

Stakeholders Table				
Primary Stakeholders	**Function**	**Interest**	**Power to impact project**	**Relative level of interest**
Visa	Provides the credit card service, the medium for transaction, and the default currency conversion service.	Has a high interest in preserving its dominance over industry standards setting and being sole provider of the currency conversion service.	+ +	+ +
Hyperwallet	Analyzing the feasibility of providing the DCC service. DCC is not its main source of revenue.	Has a low interest initially due to legal ambiguity over the legitimacy of the service. Has a high interest in capturing currency exchange revenues. Has the technical capability to build the DCC infrastructure.	+ +	+
Merchant	Provides the product to be sold or the service to be used.	Has moderate interest in commerce with foreigners but has no control over the currency exchange process.	+	+
Cardholder	Purchases the product or the service.	Has high interest in travelling but has no competitive alternative to Visa products.	+	+
Issuer Bank	Provides the credit card to the card owner.	Has a high interest in continuing to capture a fixed percent commission on currency exchange revenues. Its powers are influential yet secondary to those of Visa's.	+	+ +
Local Currency Exchange Office	Provides local over-the-counter, real-time currency exchange service with a percent fee and/or the spread charge for the conversion.	Has interest in continuing its service with ambition to increase its market volume.	O	+
Secondary Stakeholders				
Acquirer Bank	Keeps the accounts of the Merchant. Accepts end of day deposits. Provides credit card service to local cards.	Does not have a control over the currency exchange process that goes through Visa. DCC would expand its forex revenue. Acquirer is also an issuer for local cards.	O	+

External Stakeholders				
Revenue Office	Monitors the local commerce for taxation purposes.	Has no control over the exchanges performed through Visa and has no income from the process. But has interest on income from local currency exchange offices.	O	O
Chamber of Commerce	Monitors the local commerce for business development purposes.	Has no control over the exchanges performed through Visa and has no income from the current process. Could encourage the adoption of DCC in its community.	O	O
Local Mayor	Monitors the local commerce for new job creation purposes.	Has no control over the exchanges performed through Visa and has no income from the current process.	O	O

The above table reveals that credit card associations are the most important and primary stakeholders in the current credit card currency exchange business. Visa Corporation, the largest and dominant association in the world, enjoys total control over global transaction processing through its Visa Network. In addition, Visa enjoys control over the applicable exchange rate to transactions that require a currency conversion. Aside from the revenue generated through currency exchange, Visa charges a 1% service fee for any transaction request that hits the Visa Network across borders. The amount of revenue that Visa generates through its fee policy makes it the strongest conservative force within the system.

Hyperwallet aims to capture currency exchange revenues enjoyed mainly by Visa and also by other much smaller competitors. The initial level of interest in the business is low due to the concerns over the legal status of the opportunity. Hyperwallet may proceed with the investment following the legitimization provided by several favourable class action suits. Hyperwallet would then be a powerful figure in the greater picture that is able to impact the creation of the technology which would serve as the backbone of an advanced DCC service.

The merchant and the customer both have interest in the currency conversion as they need the service to finalize their transaction but do not have much information on the DCC alternative available to them. They both have very little influence over the current process and rates imposed on them. In addition, the merchant has no added value generated from the currency conversion. Issuer banks enjoy the additional conversion fee attached to Visa's fixed 1% fee. The Issuer would have a high interest in protecting this status quo but would have little ability to impact the process. Local currency exchange offices enjoy a spread fee charged to customers who request local cash for their currency. These offices serve mainly to provide the cash carried in the pocket for small daily expenses. Even though their volumes are low and are not directly threatened with DCC service, currency offices would not want to face another currency conversion alternative. The Governmental Revenue Office has no control over the currency exchange performed by Visa and cannot generate revenue through that process but a well established DCC business would increase the revenue total of the region. Lastly, commerce regulating agencies and the local political authority have no control over Visa's conversion process but are inclined to support local business development and would resist initiatives that would eliminate employment and business in the region.

6.3.2 "Before" Stakeholder Map

The following "before" stakeholder table summarizes the current level of interest and power of each actor within the bigger picture before DCC service is introduced. The table content is in line with the preceding analysis.

Table 6-2 "Before" Stakeholder Map

		Level of Interest		
		Low	**Medium**	**High**
Level of Power	**Low**	Revenue Office	Local Currency Office	
		Local Major		
		Chamber of Commerce	Acquiring Bank	
	Medium		Merchant	Issuer Bank
			Cardholder	
	High		Hyperwallet	Visa

6.3.3 Shift of Power and Interest

This section analyzes the likely shifts of power and interest due to the introduction of DCC services. The analysis categorizes these changes as catalyzed by competition, incentives, and increased business opportunities. The content covered in this section is tabulated in the next section as "after" stakeholder table.

6.3.3.1 Shift Through Competition

DCC would bring a new form of tough competition to the revenues of both associations and issuer banks. Both institutions are unable to legally stop the new initiative and will need to compete aggressively to hold on to their once uncontested foreign exchange revenue and percent fee. Nevertheless both Visa and Issuer Banks will remain important parts of the industry.

Local Currency Offices are not severely affected by the new service. DCC does not aim to create a cashless system as cash will always be the most

convenient form of payment for small-value transactions such as taxi fares, tips, and newspapers. Thus for 'pocket money' the customers will always make use of the convenience of a local currency office or an ATM.

6.3.3.2 Shift Through Incentives

DCC provides sharing of the exchange revenue as an incentive to the merchant which was not possible through Visa. The new system creates a new revenue stream for the merchant thus increasing merchants' power. The card holder is provided with a competitive currency exchange rate and the elimination of the ambiguity surrounding the applicable rate to the transactions. If these two improvements are not sufficient to generate enough demand for the new system, Hyperwallet may choose to share some of its profit as a rebate, similar to the way it does with the merchant, with the cardholder too. This new incentive would further lower the cost to the customer.

6.3.3.3 Shift Through Increased Business

The new revenue stream created for the merchant leads to a new source for taxation for the Revenue Office and increased account balances for Local Banks. Therefore DCC service would be favourable to the external stakeholders.

6.3.4 "After" Stakeholder Map

The "after" table inherits its structure from the "before" table and provides the summary of the changes of power and interest studied in the preceding section.

Table 6-3 "After" Stakeholder Map

		Level of Interest		
		Low	**Medium**	**High**
Level of Power	**Low**	Local Major	Local Currency Office	Revenue Office
				Chamber of Commerce
	Medium		Issuer Bank	Acquiring Bank
	High			Visa
				Hyperwallet
				Merchant
				Cardholder

To conclude, the most significant jump in the level of interest is by Hyperwallet, which would be directly benefiting from DCC operations. Furthermore, the merchant and cardholder are also expected to relocate to a high power status because the merchant would receive a new line of revenue and the customer would have the power to choose a competing service. The reaction from the acquiring banks cannot be forecasted at this point because even though they benefit from the operations of DCC service, they are a part of the Visa network and they too issue credit cards that are used abroad.

These results are important for future marketing efforts. In order to promote faster adoption of the service, the merchant, and perhaps the customer to a certain degree, should be motivated with incentives. The next section provides a study on the risks and threats to DCC service.

6.4 Risks and Threats

This section analyzes current and potential future risks and threats to DCC operations. The information in this section is important in developing a safe market entry strategy and preventing any avoidable harm to Hyperwallet. The risks are categorised into five groups summarized in Table 6-4. The colour codes next to the risks indicate the severity of the risk ranging from green to red with red being the most severe.

Table 6-4 Risks and Threats

Risks and Threats		
Competition	Visa retaliation	
	New market entrants	
	Procedure copying	
Operations	Returned merchandise	
	Credit card fraud	
Marketing	Lower merchant adoption	
	Lower cardholder adoption	
	Increase in serving time	
	Promoting a service not a brand	
Legal	Court decision appeals	
Technology	Technical risks	

High Risk	
Medium Risk	
Low Risk	

6.4.1 Competition

DCC is a major threat to Visa's foreign exchange revenues and as its market share increases, Visa would be expected to retaliate with increased intensity. Visa can target DCC industry as a whole and/or may target Hyperwallet's rerouting process specifically. So far Visa has been more

aggressive than MasterCard about establishing regulations that are applicable to DCC operations as a whole. In addition to the new fee structure, Visa emphasizes that DCC service can only be offered as an alternative to its own foreign exchange service and the card holder does have the right to decline the service. Consequently, a merchant cannot perform DCC without the cardholder's consent. Visa also points out that DCC receipt totals must match charges on cardholder's statement. As stated earlier, court suits were placed against Visa because the charges on foreign exchange transactions were concealed in the balance statements but currently it is Visa who pushes DCC operators to provide visibility of charges and conversion rates on their transaction.

The intention behind these early measures is to create a negative public perception that would limit the growth of DCC business. Various articles have already been published on various press channels including daily newspapers and travel magazines that directly or indirectly warn people to decline when asked for a conversion by the merchant. It is anticipated by Visa that if the mass number of card holders were made aware of the extra fees that some of the DCC providers are placing on transactions (even though Visa and the issuer banks are also attaching their own percentages to the total) a certain antipathy may rise to the new service. Such negative public perception could be strong enough to limit adoption of the alternative foreign exchange service. If successful, such a strategy could prove to be a cost effective, perfectly legal, and efficient way to limit the DCC operations. Visa cannot take more direct measures to target DCC industry as a whole because alternative foreign exchange services are legalized through court decisions.

In the future, Visa may take counter action to prevent rerouting of the transaction as proposed by Hyperwallet. This action may initially prove to be effective in slowing down the DCC business as it may cause ambiguity and confusion with the merchants and also the cardholders. The rerouting process however is a legal process protected by commercial laws. Hyperwallet would

reroute the transaction but would not conceal any of the required information on the buyer, seller, applicable fees, and the currency rate used.

A second threat would include new DCC market entrants. New entrants do not potentially pose as big threat as Visa does to Hyperwallet. The main reason is that new entrants may be pursuing the technology framework that is already countered by Visa and one that is considered obsolete by Hyperwallet's standards. New regulations and fee structure established by Visa makes it difficult for DCC providers to make a profit with fees attached by Visa and the issuer bank still intact. At urban locations, foreign credit card holders would have various foreign exchange alternatives and consequently the profit percents are pushed down to a level where huge transaction volumes would be needed to make the DCC business sustainable. In order to increase the profitability of the system, competitors may try to find ways to try the rerouting process to gain an entry to the market. Hyperwallet can prevent current DCC providers and/or new entrants from copying and adopting the transaction rerouting process by patenting the process. Patenting would ensure Hyperwallet's right to the process and would eliminate or slow down any intrusion attempt to the market by another DCC company using a similar technology.

Regardless of DCC technology used, being "First to the Market" can be considered as a crucial competitive advantage. Due to the transaction processing characteristics of the business, the revenue of the merchant that originates from sale of merchandise through DCC service is collected by DCC provider before being deposited to Merchant's account. As a consequence, the DCC provider holds on to the money generated by the merchant's services until the deposit time. This requires a fair amount of trust by the merchant in the DCC service provider and if the DCC service received is satisfactory and profitable, the merchant would abstain from taking extra risk to switch to another DCC provider's service.

6.4.2 Operations

Risks and threats to the operations side of the business is perceived as the most insignificant with respect to other fields. One topic that requires attention is the case of returned merchandise. The risk originates from the negative difference of currency rate between the date of the sale and the date of the return. The currency exposure risk has traditionally been on the merchant. With the case of DCC, there is no reason why Hyperwallet should carry the risk.

Credit card fraud would pose another issue to be questioned. With the classic credit card transactions, risk that emerges from the use of stolen credit cards is usually carried by the merchant. In some cases, depending on the merchant's contract with Visa, insurance companies step in and cover the risk. Stolen credit cards may be presented to the merchant to be used for a DCC transaction. But the DCC provider cannot be held responsible in any way for the risk that emerges from the transaction. This is because DCC provider only provides the currency exchange for the transaction. As a result, the risk would be no larger than a regular credit card transaction would have.

6.4.3 Marketing

The marketing side of the business faces two of the biggest threats to DCC services. The first serious threat is a low adoption by the target merchants. A low adoption could originate from a deliberate misinformation campaign by Visa that generates Fear, Uncertainty, and Doubt (FUD) towards the DCC service. Backed by strong funding capabilities of Visa, a FUD campaign may prove to be influential in preventing wide adoption by targeted merchant mass. Such a campaign can be devised to reach merchants from various media channels and certainly does not have to originate directly from Visa. A respected third party could be used to influence the merchants and conceal Visa's hand in the effort.

A FUD campaign would be the single most serious threat facing Hyperwallet. A counter marketing campaign aimed to promote the DCC service would require a budget that is unaffordable by smaller companies. One way to prevent such threat is to penetrate the market fast by rewarding the merchant for promoting the service's use with its customers. Such a strategy would be in line with Hyperwallet's corporate strategy that sees its clients also as business partners. With regards to DCC services, this strategy would correspond to a sharing of the profit with cooperating merchants which in return would open the door to a faster market penetration.

Another effective method would be a collective move similar to one used by private white label service companies[16]. Private ATMs are introduced for their *convenience* with respect to their locations instead of them being a cheaper alternative to bank ATMs. In fact, private ATMs are much more expensive for consumers when it comes to withdrawing money but their market is growing at an unprecedented rate due to their convenience. An article published by PIAC.com[17] states that "Of the more than 35,000 ATMs in operation in Canada in 2001, over 18,000 of them were "white-label" ATMs compared to over 16,000 operated by financial institutions" (Lott, 2002). The main reason is because they are more profitable to operate than regular bank ATMs, which are a considerable cost to operate for the bank, and this profitability in return allows the white label companies to invest in even better locations to make their service available.

White label companies are in fierce competition to each other. Very similar to what DCC companies are facing with respect to FUD campaigns by Visa, private ATM companies are constantly under the threat of campaigns that harshly criticize the additional fees added by them. Despite fierce competition, white label companies come together to counter the negative media coverage against their service. DCC service also promotes its convenience as its primary

[16] White label service companies are operators of no name-non bank ATM machines.
[17] Official website of "The Public Interest Advocacy Center".

advantage to the customer. As a result, DCC providers could be expected to follow the same route to counter a similar threat from a much stronger and dominant player in the industry. A collective common ground would be a single association that would have the financial strength to counter Visa for future confrontations.

A second most important threat to DCC is low cardholder adoption. A low cardholder adoption could occur through wide media coverage of early bad experiences of card holders' with DCC services. The single most influential bad experience would be an outrageously high rate being added by the DCC provider as extra service charge. It should be noted that a dislike of DCC service in most cases would not originate due to its more expensive service compared to Visa's. This is because in most cases DCC is promoted as a convenience service and not a cost saving service. However, strong negative marketing effort would be effective in influencing the cardholder's perception of the new service. Such efforts would concentrate on pointing out to cardholders the amount of fee added to their transaction by DCC providers even though Visa and issuer banks take a larger share of the fee.

If such marketing efforts are proven to be successful in blocking market penetration by DCC providers, Hyperwallet may choose to include the customers into the solution by allowing them to be profit sharers along with itself and the merchant. For promotional purposes, Hyperwallet may choose to rebate some of its earnings (and merchant's earnings) back to the cardholder. Such a strategy would promote greater adoption by cardholders as they would be receiving back some of the money they never considered to be refundable.

One less critical marketing threat would be the extension of time spent by the cardholder in front of the cashier. Marketing studies and reports increasingly point out the consumer trend of seeking and valuing ways of spending less and less time to do the same job. This trend includes spending less time in front of

the cashier too. Due to legal constraints, DCC service cannot be provided without the cardholder's consent. Thus taking the approval of the cardholder for the use of DCC service is necessary by law and such action would add another step to the credit card transaction process. Some customers may choose not to use the service just because they don't want to spend more of their time in front of the cashier and are not interested to learn about the service when it is offered to them. Such threats can be avoided if the customer can be made aware of the DCC service before he or she is faced with the approval question in front of the cashier. If the cardholder is informed to the benefits of the system beforehand, the additional step to the process would be insignificant. The marketing effort does not have to be a large budget promotion campaign, but rather an in store advertisement targeting the customers in line may prove to be effective.

The final marketing threat identified by this chapter focuses on the fact that DCC service received by the customer is mostly a no-name service and not a named brand to look for. The service can be perceived by the customer as being a conversion service provided by the merchant instead of a centralized and regulated alternative foreign exchange service. Such a threat would be more significant if DCC grows into a full industry and the competition becomes fierce. As a result, some level of branding effort is necessary but branding could be performed at the merchant level instead of the cardholder level.

6.4.4 Legal

Legality of DCC service is not an issue for the moment. It is acknowledged even by Visa Corporation as an alternative foreign exchange service to credit card transactions. However this status quo does not change the fact that the court decision analyzed earlier is taken to appeal by Visa. The risk of having the court decision reversed or neutralised by a higher court should be taken into consideration as a risk premium for the feasibility calculations.

6.4.5 Technology

Possible technical problems anticipated during the DCC operations are not more severe than the problems that any technology company encounters. Network and server failures are two possible risks and the solution is adopting proper back-up systems.

6.5 Conclusion

Consumer behaviour study reveals that a vast majority of the customers prefer the current DCC service if they are in a position to choose between DCC and Visa. This conclusion is confirmed by two reliable sources, a leading European based DCC company and a well respected payments industry publication. Such a positive conclusion is a good incentive to take the study forward to a feasibility analysis. Furthermore, the legal status section indicates no immediate threat to the DCC service. However, the risks and threats section warns that the biggest threat could arise from lower cardholder/merchants adopting the service following a possible FUD campaign by credit card associations. A few actions aimed at countering such a threat are recommended in the final chapter. Lastly, a stakeholder analysis in this chapter reveals parties that could benefit from the new service or suffer losses as a result. This analysis is important because as the competition in this industry gets intense, Hyperwallet may need to look for allies and business partners to back its cause. Hyperwallet should update this analysis on an ongoing basis to identify its adversaries and allies and take appropriate action.

7 RECOMMENDATIONS

Chapter seven provides options along with their possible consequences that Hyperwallet could reasonably pursue in order to establish its investment in DCC business. This chapter concludes with a recommended course of action to Hyperwallet in light of the information covered in this opportunity assessment and the options in this chapter.

The revenues generated by credit card associations from credit card foreign exchange service represent substantial potential for growth for Hyperwallet. However, the volume of the credit card conversion market presented in this research should not be the target for Hyperwallet as it represents the sum of conversions applied to purchases made at any merchant and in any currency. Rerouting is an effective advancement to current DCC technology but it necessitates a presence in the USA in order to complete the transaction. Therefore, a scope limitation seems to be a necessity to cut the costs in the initial investment phase. While there is no barrier to Canadian companies to own business or operations in the USA, establishing a presence abroad represents a considerable initial investment budget. Nevertheless, limitations in scope allow Hyperwallet to strategically target the least interrupted, most abundant, and most profitable foreign customer group in Canada. Americans visiting Canada for holiday/vacation purposes represent the most suitable target group.

The first question that Hyperwallet expects an answer is whether DCC service in Canada is worth investing. This chapter assumes that the research in previous chapters is conclusive in that Dynamic Currency Conversion, bound by the scope of this research, represents a true investment opportunity for

Hyperwallet Systems Inc. and Hyperwallet's proposal to limit the scope to USD brought by Americans visiting Canada is also justified by this research. The next question for Hyperwallet is "where to invest" in order to benefit the most from the target group. Next section analyzes possible market entry locations.

7.1 Market Entry Location

Location of the service introduction is significant for the prospects of future expansion. Success in the initial season would trigger further demand for the service in alternative locations. Hyperwallet has two options: (1) the system could be introduced in a smaller, isolated, but strongly tourist dominated region in Western Canada, or (2) it could be taken to an urban atmosphere such as Downtown Vancouver. Table 7-1 presents the advantages and disadvantages of the first option.

Table 7-1 Remote Resort Town

Remote Resort Town	
Advantages	Guaranteed number of tourists from dominantly a single country
	Non or limited number of bank branches present
	Low advertisement cost
	Local administrative support
	Hyperwallet's experience with small communities
	Relatively higher barrier to entry for competitors
Disadvantages	May need a presence in the region
	Demand is season based
	Distance to the corporate headquarters

Canada has numerous small towns and regions rich in natural and tourist attractions. Towns built around these attractions are active beyond their prime season. These resort towns have a tendency to rent their services to tourism agencies in order to guarantee a minimum number of customers for the season.

In the case with Canada, these tourism agencies mostly promote their services in a single country (mostly the USA) and, as a result, the tourists they attract are primarily from a single country. As a result, most resort towns in Canada enjoy an inflow of great numbers of American tourists. Furthermore, these towns and resorts usually have limited bank branches operating in close proximity. This is because providing banking services in remote areas where the demand is active for only part of the year is not cost effective for banks. In addition, advertisement and marketing budgets to promote the DCC service in a small town is smaller than what it is in an urban scenario. This is because most of the merchants in smaller markets would be familiar with each other. Other stakeholders such as local officials would view the new service positively as the service would create a new source of revenue for the town's merchants. One last advantage that is unique to Hyperwallet would be Hyperwallet's debit card business experience working with small communities that have no bank service presence. Hyperwallet has been active with its debit card solution in Canadian First Nations communities where the banking service is almost non-existent. Such experience would be valuable when devising a market entry strategy to a remote area.

Establishing a new service to a remote area has disadvantages to it too. The business may, in the initial period and perhaps sometime into the future, need a presence in the target region whether it is for technical service or to support sales/marketing efforts. Running this service from the headquarters in Vancouver would not be as costly, but nor would it be as effective, as having a presence in the region. However, this problem could be overcome with a hybrid solution. Hyperwallet could partner with an influential merchant in the region or a single individual instead of allocating sales personnel from the current sales team. Table 7-2 presents the advantages and disadvantages of the second option.

Table 7-2 Downtown Vancouver, BC

Downtown Vancouver, BC	
Advantages	Larger volume of tourists
	Close proximity to the corporate headquarters
	Service active all year around
Disadvantages	Tourists are from various countries
	Harder to defend the market share

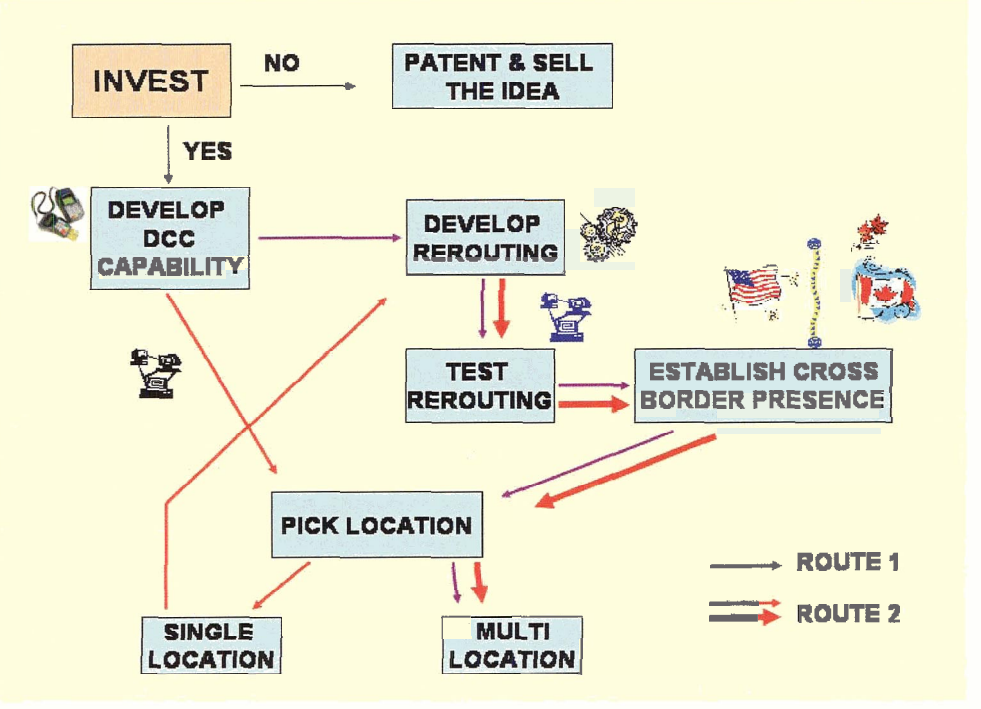
On the other hand, introducing the service in an urban region such as Vancouver would represent a greater tourist market. But significantly larger numbers of tourists may or may not correspond to a bigger potential for Hyperwallet because the scope of the investment targets USD transactions. Therefore a larger but more diversified tourist group may not represent the same potential that an isolated but single currency spending group does. One advantage of the city is that tourist demand is valid for four seasons. Numerous festivals, conferences, and business organizations attract greater demand to the city. Moreover, the city is where Hyperwallet is located and this close proximity to the merchant would create greater influence on business networks. One last concern about investing in a city location is that it would be harder to establish a monopoly and defend against new market entrants as the opportunity and the revenue generated will be more visible to other expanding companies. To conclude, a feasibility analysis should estimate the value and cost of the investment to both Vancouver and a remote tourism town.

7.2 A Hybrid Solution

The reason for scope limitations is to be able to generate a greater profit with a smaller investment utilizing the rerouting process. However, the analysis has shown that competition to DCC service, except for the standard Visa service, is non-existent in Western Canada. Therefore in the initial period of investment, Hyperwallet has the advantage of capturing uncontested revenues.

However, this research also places great emphasis on being first to market. The cost structure makes it very difficult for other DCC providers to grab market share from an established provider. Time spent during the development phase of the rerouting capability would delay the introduction of the service. Hyperwallet should also consider "initially" introducing its service as a regular DCC operator without going through the costs and time associated with establishing a presence in the USA. As such, without scope limitations Hyperwallet would be in a position to offer conversion for a basket of currencies. A sweeping start would give Hyperwallet at least one season head start to any possible competitor and the early business could provide much needed cash flow to develop the technical capability to reroute transactions in the future. Next figure presents two possible investment routes identified above.

Figure 7-1 Investment Routes



An investment to a single location means that Hyperwallet can introduce the service in either a remote resort or the downtown district. Once the rerouting technology is available, the service can be introduced in multiple locations.

7.3 Marketing Strategy

The next step for Hyperwallet is to come up with an effective marketing strategy that would suit a first mover. Marketing strategy should be able to counter the risks and threats identified in this research. In addition, it should take into consideration the size and the influence of the American visitors and currency in Canada. A greater market penetration is achievable by integrating two other important stakeholders, the merchant and the cardholder, into the solution. If the merchants are made aware of the extra revenue benefits of the new system and the customers of the cost savings and the removal of the uncertainty from their transactions, DCC service could become one of the minimal requirements for the merchants operating in tourist rich areas. To achieve this, a careful marketing effort is needed that overcomes the limited revenue-limited exposure problems of first movers, actively follows Visa's and competitor moves, and counters FUD campaigns targeting DCC.

7.4 Conclusion

This project confirms the opportunity that Dynamic Currency Conversion represents for Hyperwallet Systems Inc. as being both valid and achievable.

DCC is a legal and established business in other parts of the world but its market in Canada is almost untouched. Hyperwallet is not only capable of running a standard DCC system but is also capable of introducing a brand new and unique rerouting technology to the service which would allow it to achieve a cost advantage in comparison with other potential DCC providers.

However promising it may be, the best location to introduce the service is not clear without a proper feasibility study. This project's scope does not include a cost analysis associated with developing the DCC software, patenting the rerouting process, running the network necessary for operations, establishing a presence in the USA, and marketing the service to merchants. To conclude, this project recommends that the positive prospects identified need to be assessed further by conducting a detailed feasibility analysis before any decision is finalised.

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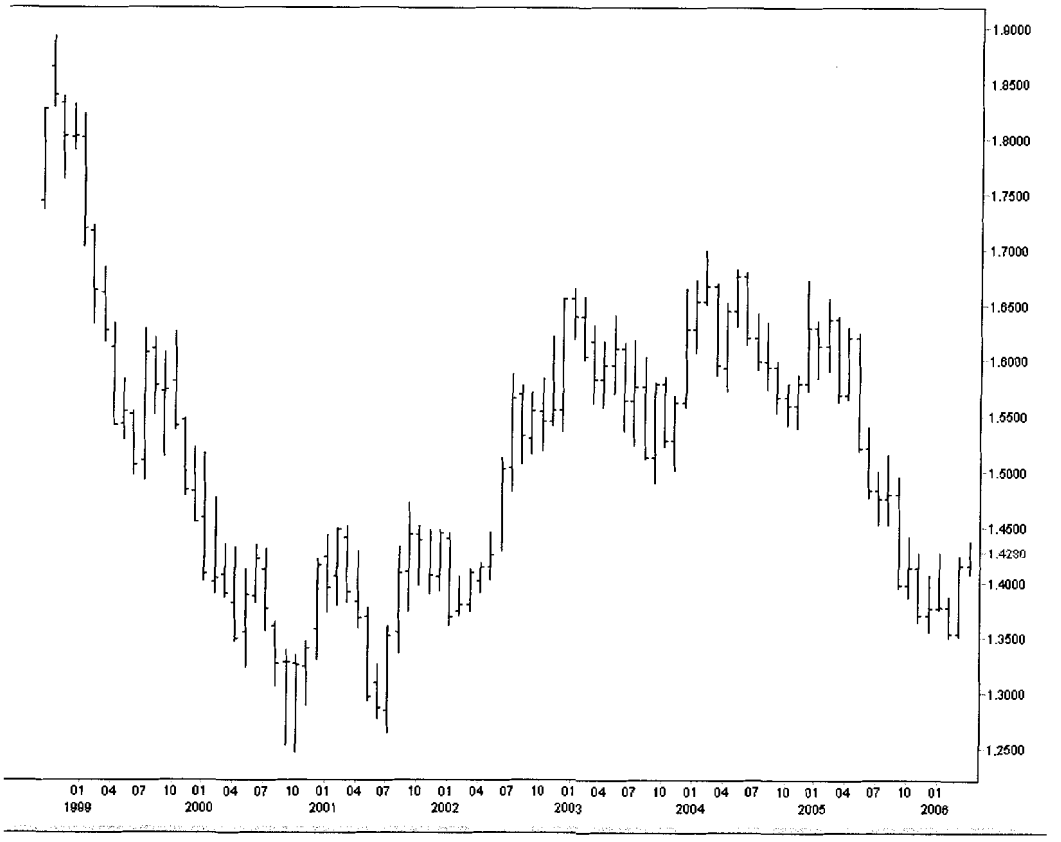
APPENDICES

Appendix A: (EUR/CAD) 7 Year Trend

Figure 7-2 EUR/CAD fluctuations 1999-2005



Appendix B: (USD/CAD) 10 Year Trend

Figure 7-3 USD/CAD fluctuations 1994-2004