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Table of Contents

- 4 *Innovative Delinquency Management*
Sanjay Mohapatra · Debasis Mishra
- 35 *Taking the Eeek Out of Economics: A Case Study of an Online Professional Development Course for Elementary Classroom Teachers*
Kimberly P. Clayton-Code
- 55 *An Empirical Study on the Factors Influencing RFID Adoption and Implementation*
Sung-Hee Jang
- 74 *Business Leader's Behaviors in the Case of Retirement and Successor's Acceptance: A Men/Woman Comparative Case Study*
Vivi Koffi · Jean Lorrain

Innovative Delinquency Management

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ABSTRACT

This research paper focus into the most challenging aspect of any MFIs that is the evaluation of credit worthiness of a client prior to loan disbursement using credit scoring score card and collection of data regarding the repayment in a very cost effective way. Though this method of grass-root economic development has showed pledge throughout the world but conversely problems may arise if the proper systems are not in place to support the intensification of microfinance. If lending institutions are not well-versed about the credit-worthiness of potential clients, it can lead to negative effects on the performance of MFI loan portfolios and will result in over-indebtedness of clients.

Keywords: *Bottom of Pyramid Marketing, Credit Rating, MFIs, Microfinance*

INTRODUCTION

Indian microfinance has continued to grow rapidly towards the main objective of financial inclusion, by extending financial services to approximately 80 percent of the population, which has yet to be reached directly by the banks and hence playing a great job in bringing the poor households into the mainstream. Microfinance services have become progressively more imperative tools for financial and social intermediation in the lives of the India's poorest. The number of microfinance institutions (MFI) has been growing rapidly for last couple of decades, by which borrowers are offered a range of lending alternatives. Though this method of grass-root economic development has showed pledge throughout the world but conversely problems may arise if the proper systems are not in place to support the intensification of microfinance. If lending institutions are not well-versed about the creditworthiness of potential clients, it can lead to negative effects on the performance of MFI loan portfolios and will result in over-indebtedness of clients.

Up to now, Most of Indian microfinance lenders have depended almost exclusively on informal & qualitative information, but the credit scoring model will be quite helpful in decision making by the top management level. It not only reduces the risk factor but also saves time in decision making. Depending on the credit worthiness of the client, appropriate products can be designed with suitable repayment periods which will help the client to be able to repay the interest as well as loan amount without burdening his personal financial capability. A timely repayment without default will also help the client to be able to get further financial assistance at the time of his need. Along with this the framework developed can be useful to collect the data of repayment in periodic basis overcoming the hurdles due to infrastructural facilities in the rural areas. In addition to above benefits it will be helpful in reducing the operational cost and the cost

due to bad debt which forms a major part of the interest charged by the MFIS hence resulting in a win-win situation for both the institution & the client .

LITERATURE REVIEW

Microfinance in India is part of the larger financial framework and Microfinance Institutions (MFIs) are emerging as social businesses within this framework, catering to an untapped market segment while creating value form their shareholders. As per a report titled “Inverting the Pyramid” (Oct 2007) published by Intellicap, (a social investment banking firm) MFIs have emerged as the most important channel in Indian microfinance supply with a market share of almost 47 percent, growing rapidly compared to the Self Help Group (SHG)-Bank Linkage channel. In the last five years, Indian MFIs have demonstrated impressive growth rates, compelling financial performances and increasing efficiencies, faring exceptionally well when benchmarked against their Asian counterparts. With very high growth rates, many in the range of 75-100% portfolio growth annually, MFIs are reaching out to their clients faster with higher loans sizes. The decreasing rates charged to clients and declining cost ratios along with rising competition is making room for competitive pricing in the Indian microfinance space. In addition, such a scenario triggers innovations in financial instruments, delivery channels and business partnerships that overcome the legal and market-related constraints in reaching out to the poor.

Although the performance of MFI’s has been impressive enough, but there are areas to watch out. For instance information regarding the clients in context of portfolio management, loan disbursement, loan recovery, delinquency management etc. is very much essential for the sustainable growth. Hence the need for proper systems regarding

assessment of credit-worthiness is all the more important. So, in case of any default, it not only increases the cost of bad debt but at the same time requires additional efforts to collect delinquent loans. This means additional expenses for closer monitoring, more frequent visits to borrowers, more extensive analysis of the portfolio, legal fees for pursuing seriously delinquent borrowers, and so forth. This concern has been raised and discussed by Joanna Ledgerwood in his book “Microfinance Handbook – An Institutional & Financial Perspective”. The more time, effort, and resources that are put into controlling delinquency, the less there are available for the MFI to reach new borrowers and expand services or outreach. Delinquency can result in a slower turnover of the loan portfolio and an inability to pay expenses due to reduced cash flow. If loan principal is not recovered at the scheduled time, loans to other borrowers cannot be made, and payment of some expenses may also have to be delayed. Also, with reduced cash flow, the MFI may be unable to make timely repayment of borrowed funds or meet the demand for savings withdrawals.

The Effect of Delinquency on an MFI's Profitability Clearly, the profitability of an MFI is affected if interest revenue is not received on delinquent loans. However, the most significant effect on profitability occurs when the loan principal is not repaid and loan loss provisions must be made. For every loan lost, many additional new loans must be made to generate enough revenue to replace the lost loan capital. In other words, when a loan is not recovered, the entire principal (and if capitalized, the interest) must be expensed through a loan loss provision. This greatly affects the profitability of the MFI and consequently the amount transferred to the balance sheet as equity. If the MFI records a net loss, the equity is reduced, resulting in fewer funds available to finance additional loans. If operations are to continue, the equity will have to be increased at least to its level before the loss was recorded. Since investors or donors are not likely to be willing to invest in the long term in an MFI that is losing money, the

MFI must work toward generating enough income net of expenses to replace the lost capital (equity). Note that even if loans are funded with debt, the debt still needs to be repaid regardless of whether or not the loans (assets) made to borrowers are repaid to the MFI. If not enough revenue is generated to repay the debt, then equity will be reduced. Hence, delinquency management requires a comprehensive review of the lending methods, operational procedures, and institutional image of the MFI. Delinquency is often a result of poorly designed loan products and delivery mechanisms. For this reason the clients must be screened carefully before loan disbursement.

To address this issue of judging credit-worthiness of prospective clients financial institutions worldwide are using credit scoring model, which analyzes historical client data, identifies links between client characteristics and behavior, and assumes those links will persist to predict how clients will act (Source: www.Wikipedia.org). The technology can help a microfinance institution (MFI) analyze how its clients have behaved in the past to make more reliable loan application decisions, devise more effective collections strategies, better target marketing efforts, and increase client retention. For example, an MFI's credit scoring model might find that its borrowers without business experience have been more likely to default on loans. When the MFI's loan officers use a credit scorecard to evaluate new applications, prospective borrowers without business experience would be given a lower score, making them less likely to qualify for a loan from the institution. Scoring technology systems can be a foundation for advanced capabilities, such as pricing loans based on individual client risks and more accurately provisioning against loan losses.

Most of the financial institutions are using statistical scorecards, in which the client data regarding the repayment history is analyzed using statistical techniques such as linear and logistic regression to identify the importance of certain client variables such as monthly income, family size, educational background, capital assets etc on

repayment behavior. This model generates a scorecard that indicates the probability of default, desertion, or other behavior, based on these unique characteristics (Source: Dean Caire, CFA, and Bannock consulting). This can provide a foundation for more advanced credit risk management applications. Statistical scorecards predict client behavior more accurately, but require much more data, staff time, and expense to develop. But, in Indian context most of the MFIs are dependent on informal sources of information like judgment of the loan officer for deciding the credit worthiness of the client.

Owing to below mentioned gaps that have been identified in the above discussion the need to this project study becomes more prominent. The reasons are –

- 1) Credit scoring models used in other countries are not applicable in Indian context due to different socio-economic and demographic variables.
- 2) New MFIs entering Indian microfinance market do not have data regarding the clients and due to unwillingness of existing MFIs to share their own database, evaluation of credit worthiness of clients for these new MFIs is becoming problematic.
- 3) Additionally Indian MFIs are using more of informal sources on information gathering and decision making vis-à-vis loan disbursement and evaluating credit-worthiness, hence not being able to fully implement the credit scoring models.

To address these gaps the present research was designed with the objective to develop a credit scoring card to evaluate the creditworthiness of a client prior to the disbursement of loan

Benefits of the Research

The outcome of the research will help the stakeholders as follows: MFIs for finding credit worthiness of clients

- a) This will help in designing an appropriate customized product
- b) Improve the loan collection by reducing risk associated with rate default
- c) Reduce the monitoring cost
- d) Reduce administrative work related to loan approval process
- e) The above reasons would help reduce interest rate for microfinance, the benefits
- f) of which can be passed onto clients
- g) To quantify the mechanical procedures involved in credit scoring and gain the
- h) efficiencies of application processing that comes through automation.
- i) To gain control and consistency in lending practices for the entire credit portfolio.
- j) To identify the variables which are important in the credit evaluation process?
- k) To improve delinquency statistics while maintaining desired approval rates.
- l) To maximize the profit and outreach by reducing no. of defaults
- m) To expedite the risk management process

Clients, who would like to avail the loan, would be benefited by

- a) Timely available of funds
- b) Availability of funds for consumption as well as for investment purpose
- c) The customized products help in easy repayment schedule
- d) Right amount of loan amount reduces financial pressure
- e) Good social standing because of debt free position

RESEARCH METHODOLOGY

The steps involved in research are as follows:

1. Selection of variables for the score card
2. Questioner design
3. Data collection from the field & Data analysis using statistical tools
4. Assigning scores to each variable

Selection of Variables for the Scorecard

Information about the important variables, that is indispensable for the assessment of credit worthiness were collected by adopting primary and secondary research methods. Primary research method - knowledge about the important variables was gathered by conducting unstructured discussion with microfinance experts. Secondary research methods - In this method the relevant information pertaining to objective were collected by using many resourceful sources through internet. At the end taking into account the knowledge obtained from primary and secondary research, variables having high degree of discriminative power to differentiate the population were selected to include in the score card. The idea of including a variable is to differentiate a customer from the rest of the population. These variables are as follows:

1. Demographic variables
2. Product variables
3. Business variables
4. Employee variables
5. Rural variables

Criteria considered for selection of characteristics under each variable: The characteristics having high risk discriminative capability, which are very essential to differentiate between “good” and “bad” clients (desirable or undesirable clients for lenders institutions), are chosen for the scorecard. For example, regarding age, it is known that younger clients have a more risky credit behavior, in contrast, older

clients has better risk profile, hence younger clients are more associated to “bad” payment behavior and this client characteristic is considered inside the model for differentiation with the rest of the population (negatively – negative score) and An older client age also will considered inside the model for differentiation with the rest of the population (positively - positive score). Questionnaire was designed to collect the information about the selected variables and to get an insight about the target population and the type of questions used were structured (multiple choice), unstructured, dichotomous type.

Question Arrangement Approach- Funnel Approach

The type of the questions used, were chosen considering the kind of information required and the mode of interview. In designing the order of the questioner funnel approach was adopted in which questions are proceeding from general to specific. The initial questions were aimed at building a rapport with the respondent and putting the person at ease. The respondent was introduced to the broad area of enquiry; an interest in the study was generated, and gradually leads to queries relating to specific queries. During designing of questions simple and unambiguous words were used and highest care was taken to avoid biasing questions and implicit alternatives.

The following steps were taken into consideration while developing the questionnaire. Specify the information needed, Determine the Content of Individual Question, Specify the type Interviewing Method, Design the Questions to Overcome the Respondents Inability to Answer, Design the Question Structure, Design the Question Wording, Arrange the Question in Proper Order, Identify the Form and Layout, Reproduce the Questionnaire, Eliminate Bugs by Pre-Testing.

After the questionnaire was developed, it was pre-tested in a sample size of 30 to find out and eliminate potential problems. All aspects of the question were tested, for example wording, sequence, question difficulty etc. The only change was done in Q.1 in product

variable. Before the question was 'Do you ever taken a loan' but it was seen that most of the people hesitate to express the truth so this was changed to "would you like to take a loan'.

Sample Design

Sampling technique- Non-probability convenience sampling is adopted to collect the data. The following steps were taken into consideration during the sampling process: Define the Population, Determine the Population Size, Select Sampling technique(s), Determine the Sample size, Execute the Sampling Process, Reasons for non probability convenience sampling are: The nature of research was exploratory one to generate ideas and insights about the Population, homogenous population, least time consuming, least expensive and most convenient, sampling units are accessible, easy to measure and cooperative, useful in collecting data using pretested questionnaires.

ALLOCATION OF SCORES TO DIFFERENT CHARACTERISTICS IN QUALITATIVE SCORE CARD

This scoring was exercised based upon the past experience of Microfinance experts using Delphi method in microfinance segment and the knowledge gathered about demographic variables by studying the data collected regarding the target population. In this process different characteristics under each variable were scored taking into account the level of risk attached in disbursing loan to the population having that characteristics. Methodologies adopted for scoring: The constant model 800 was used in scoring the characteristics. The constant in this Model comes from an average % of Bad observed for different Microfinance Institutions across the world. Such average % of Bad customers is around 20%. For this reason the constant was taken as 800 which signify that the usual probability for repayment of a loan is 80%. The common definition of Bad in this segment is the clients

who have a maximum payment delay more than 30 days, and an average payment delay more than 7 days. Average score was taken as 10 (as per the 800 constant models). The characteristic of the major population was not assigned any score because total risk of the population is similar to the risk attached with that characteristic. The weight of scores depends on the expected correlation of a variable characteristic with risk. Each characteristic was either awarded or punished as per the past impression it had concerning the repayment of loan.

Age - The assumption made during assignment scores at initial stage that majority of the population lies between age group of 21 to 40 years, is true in case of MFIS's target population. Hence scores under the mentioned variable is valid in Indian context. But the characteristic "over than 60 years" should be punished by low weight because the life expectancy in Indian condition is close to 60 years and hence more risk is attached.

Marital Status- In the credit evaluation, Single population is normally more risky than the rest of the population, but looking to its important participation in the portfolio, it was weighted averagely. As Married population is the major one so no score was assigned to it, but as per the MFIS experts it was come to the knowledge that this variable has good differentiation capability hence this variable was assigned a low weight. Divorced and widowed population has no strong differentiation capability in the target market so it was not assigned any score.

Gender - The assumption for previously defined scores under this variable was that females have major participation in micro credit segment. But after frequency analysis it was found out that males have major participation as compared to females. Hence no score should be awarded to the male as it is the major population and hence less discriminative capability. In contrast female should be awarded by a low weight.

Language Skills - The client with better English knowledge is associated with better repayment behavior because of its more avenues of being employed; hence these characteristics were awarded with low and average weight as per the level of knowledge in English language Education Qualification- In microfinance, it's being found all around the world that elementary and technical degrees has better risk profile than the rest of the population, so these characteristics were awarded . In contrast, it was found out that the illiterates, graduates and under graduate's population is more risky, hence they were punished.

Insurance Coverage - Clients that uses insurances, not only have better chances of being paid for any inconvenience, but also belongs to a better risk profile population that effectively has better payment behavior and are highly desirable for lender organizations no. of dependents per family - In This variable children were taken as dependents, the reason of including this one instead of total number of dependents was that, number of sons is easier for applicant to lie around for dependents issue. As the most of the population has between 1 and 3 children, hence this population won't help so much in risk discrimination, but the clients with no children is associated to single or common connivance so is an interesting characteristic for punishment. Additionally, clients with 4 and more sons may have more family expenses and have more risky profile as per the microfinance experts. Hence there was a gradual punishment for this population i.e., as the number of sons increases, the punishment increases too.

Number of earning members in the family - Number of earning members in the family are always a point of assurance to others. With the increase in number of earning members the risk attached also reduces proportionately. But no earning member in the family is a matter of concern as far as loan disbursement is concerned; this is the reason for which this characteristic was punished. It was observed that no. of earning members for a family is generally 1 so this was not

scored. In contrast all other were scored as per their relative importance.

Home Ownership - In microfinance market, it was observed that population with own home has better risk profile than the rest of the population, so an award for them, in contrast, rented home is a risky characteristic, and hence it was punished.

Type of house - This variable has an importance in terms of collateral to the lender organization and could be used to recover the loan amount in the case of delinquency. The different characteristics under this variable were scored as their value in the market.

Duration of Stay at current location - Years of stay at a particular location creates a sense of assurance for the lender. Duration of stay up to 1 year is a risky characteristic in view of lender institutions hence it was punished. But in contrast other characteristics were awarded as per the level of security attached in getting the loan back.

Main income seasonality - The person having permanent source of income are more consistent towards their payment behavior hence this characteristic was awarded with average weight.

Additional Income Source - Any additional income source has a positive effect in risk profile of clients, so this characteristic was included for an award with low weight.

Purpose of the Loan - The purpose of the application product is a very important variable that has shown differentiation capability in the past. An average punishment was given for consumption purpose based on previous observation that it is not linked to a financial leverage and naturally not associated to the business activity. Additionally, a punishment was suggested for the loans for prepayment of other loans based on observations and associating this purpose with payment difficulty of previous financial obligations.

Payback period - As the term of repayment increases the risk also increased proportionately hence every lender institutions want their loan to be paid back as soon as possible. It was found out by taking into

account the past data base available that most of the population needs loan or more than 3 months. Hence this characteristic was awarded with low weight for the reason of having good discriminative power among the population.

Repayment Frequency - Reviewing the credit behavior of applicants associated to the payment frequency, it was found that daily and weekly characteristic has better payment behavior than the rest of population, so this characteristic was assigned for an award of low weight.

Experience as Micro entrepreneur - When a client has lower experience as Micro entrepreneur, then the business condition is more risky and this reflects in the credit behavior; so for new Micro entrepreneur population a punishment was suggested. In contrast, clients with more experience in business running will be able to have better business performance and naturally this will be reflected in the credit behavior; so a gradual award was given for this population.

Business Formality - The business formality is the status of the business regarding legal registration and licenses issuing; when a client has some formality level, his risk profile is better than a client that doesn't have it. An additional point considered for the scoring, was that in Indian rural market, most of the population has no legal registration, so it is more effective to award for formal business than a punishment for informal ones.

Business Premises Ownership - When the commercial location of the business is of own, the business and naturally the applicant have more collateral issuing capability, and naturally is a more desirable condition for lender institutions.

Business Age - Based on many statistics, the most of the business that falls into bankruptcy are the "younger" ones; hence they are more risky than the rest of the population, so they received a punishment. In contrast, older businesses are more stable and hence awarded.

Time at Current Location of the business - One of the factors that have shown interesting differentiation capability is the time at the current location of the business. Normally in microfinance markets, the business that are in the current location for under than a year had shown worst payment behavior than the rest of the population; in contrast, the business with over than 5 years shows better risk profile. Regarding this analysis, it was decided to consider a Average Punishment for clients with the less time at current location and a gradual price for clients that have being in the same location for over than 5 years.

Phone Lines - This variable is associated with the possibility of locating a potential client and this is why in this population any collection strategy is more effective; so it was decided a low award for them considering that this characteristics comprehends the minority of the population.

Number of Employees - The number of the employees, is focused on production sector and also is associated with the size of the business, and as is known that bigger business are more trustful than smaller ones, so a gradual award was given starting from 3 employees (different than owners) and over.

Land Ownership - Analogically, to business premises, the land ownership is a very discriminative variable. In MFIS population the minority of population has their own land; so it was awarded with an average-high weight.

Irrigation System Availability - The availability of irrigation system is a key factor in the productivity success, so it was included as a positive characteristic with a low award.

Production variety - This variable gives the idea of the size of production and was scored as per the profit generated from the business. Single production was punished because crop failure might lead to delinquency.

Type of live stock - It was found out that poultry is associated with more risk due to its vulnerability to number of diseases hence it was punished.

Total number of heads - The number of head is associated with the productive capability of applicant, as more amount of heads, as more productive he can be; so an award was given to the higher range of head numbers over than 5.

ANALYSIS OF DATA COLLECTED DURING FIELD SURVEY USING STATISTICAL TOOLS.

The following were the step by step methods adopted for data analysis.

1) Questioner checking: In this initial step all the questions were checked for completeness and interviewing quality.

2) Editing: It was done to review the questioners with the objective of increasing accuracy and precision. It consists of screening questioners to identify illegible, incomplete, inconsistent or ambiguous responses. For example a customer reported monthly income of less than 4000 but having mobile phones more than 2.

3) Treatment to unsatisfactory responses: The respondents with unsatisfactory responses were simply discarded. The reasons for this were: a) The proportion of unsatisfactory answers were under 10 % of the total; b) The sample size was large; c) Responses on key variables were missing.

4) Data cleaning: In this method the missing responses were calculated to smooth the data further. Substitution by a neutral value - A neutral value that is the mean response to the variable was substituted for missing responses. Thus the mean of the variable remains unchanged and other statistics such as correlation was not affected much.

5) Frequency analysis: Frequency analysis was done using Bar charts and Cross tabulation - The reasons of exercising frequency

analysis are as follows: a) To get an insight of the population; b) To find out the major characteristics of the population within a variable
6) Regression Analysis and Correlation Analysis

DATA INTERPRETATION OF THE SAMPLE COLLECTED

Regression model is presented in Table 1. Valid sample size is (N=263). From the regression model it was found that the $R^2 > 0.6$.

Table 1. Variables Entered/Removed ^b

Model	Variables Entered	Variable Removed	Method
1	Monthly Income_New Liability_New Occupation Asset_New Education, Family size ^a	.	Enter

a. All requested variables entered.

b. Dependent Variable: Repayment

Table 2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672 ^a	.452	.439	.35706

a. Predictors: (Constant), Monthly Income_New, Liability_New, Occupation, Asset_New, Education, Family size

As as the data collected was of social economical in nature, so this value of R^2 can be statistically accepted for drawing statistical conclusions.

Table 3. Coefficients of Six Variables ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.988	.152		13.062	.000
	Occupation	.042	.040	.053	1.042	.298
	Education	-.037	.032	-.062	-1.153	.250
	Family size	-.013	.013	-.060	-1.006	.316
	Asset_New	-.177	.020	-.488	-8.665	.000
	Liability_New	-.061	.052	-.057	-1.181	.239
	Monthly Income_New	-.104	.039	-.166	-2.681	.008

a. Dependent Variable: Repayment

Table 4. ANOVA of Repayment with Predictor Variables ^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.875	6	4.479	35.133	.000 a
	Residual	32.638	256	.127		
	Total	59.513	262			

a. Predictors: (Constant), Monthly Income_New, Liability_New, Occupation, Asset_New, Education, Family size

b. Dependent Variable: Repayment

OCCUPATION

From the above coefficient table it was found out that occupation has a positive relationship with the repayment. From that we can conclude that as the housewife has more chances to default as compared to the self employed women and who are engaged in labour work. Hence the hypothesis of repayment capacity increases with the increase in

income generating activities holds good. The same can also be inferred from the following cross table. From the above cross table it can be observed that most of the bad payers are housewives but when we look at the good payers the % of housewives also very high as compared to other categories. The reason might be due to the skewed data collected.

Table 5. Repayment * Occupation Cross-tabulation

		Occupation			
		labour	Self-employed	Housewife	Total
Repayment	goodpayer	9	62	101	172
	default	7	4	80	91
Total		16	66	181	263

Table 6. Frequency of Labor, Self-employed, Housewife

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	labour	16	6.1	6.1	6.1
	SELFEMPLOYED	66	25.1	25.1	31.2
	HOUSEWIFE	181	68.8	68.8	100.0
	Total	263	100.0	100.0	

Table 7. Correlations of Occupation and Repayment

		Occupatio	Repayme
Occupation	Pearson Correlation	n	1
	Sig. (2-tailed)		.213**
	N	263	263
Repayment	Pearson Correlation	.213**	1
	Sig. (2-tailed)	.000	.
	N	263	263

**Correlation is significant at the 0.01 level (2-tailed).

According to the above correlation table there is a very low but positive correlation between the repayment and the type of employment. The positive correlation signifies that there is a positive correlation between the repayment capacity and the earning capacity of the client.

Table 8. Correlations of Repayment and Education

		Repayment	Education
Repayment	Pearson Correlation	1	-.344 **
	Sig. (2-tailed)	.	.000
	N	263	263
Education	Pearson Correlation	-.344 **	1
	Sig. (2-tailed)	.000	.
	N	263	263

** . Correlation is significant at the 0.01 level (2-tailed).

Table 9. Repayment * Education Cross-tab

		Education				Total	
		ILLITERATE	PRIMARY	higher secondary	secondary	graduation	Total
Repayment	goodpaye	4	11	4	9	2	17
	default	7	1	2	3	0	9
Total		11	12	6	1	2	26

From the above regression coefficient table it was found out that education has a negative relationship with the repayment. From that we can conclude that as the literacy level is decreasing the chances of default is increasing. Hence the hypothesis of repayment capacity increases with the decrease in literacy levels does not hold good. As per the hypothesis as the education increases the bargaining power of the customers increases and they are more likely to default but from the

data collected it was found out that the hypothesis is not true and the reason might be as the education level decreases the earning capacity also decreases and has a negative impact on the repayment of the loan.

From the above correlation table it can also be proved that as the education level increases the repayment capacity also increases but if we observe the cross tabulation it can be inferred that most of the good payers belong to the low literacy level group. The contradiction in the above hypotheses stated is there but it can be because of more data on good payers rather than the defaulters.

Table 10. Repayment * family size new Cross-tab

Count		familysize_new		Total
		1.00	2.00	
Repayment	goodpayer	132	40	172
	default	84	7	91
Total		216	47	263

Table 11. Correlations

		Repayment	familysize _new
Repayment	Pearson Correlation	1	-.193 **
	Sig. (2-tailed)	.	.002
	N	263	263
Family size_new	Pearson Correlation	-.193 **	1
	Sig. (2-tailed)	.002	.
	N	263	263

** . Correlation is significant at the 0.01 level (2-tailed).

As per the regression table for family size, it can be inferred that as the family size decreases the repayment behaviour of the client improves, but according to the hypotheses as the family size increases the liability of the payer increases and it has a negative impact on the repayment behaviour. But the contradiction may be due to non availability of the data on the no. of earning members in the family.

Monthly income

Table 12. Correlations

		Repayment	Monthly Income_New
Repayment	Pearson Correlation	1	-.463 **
	Sig. (2-tailed)	.	.000
	N	263	263
Monthly Income_New	Pearson Correlation	-.463 **	1
	Sig. (2-tailed)	.000	.
	N	263	263

** . Correlation is significant at the 0.01 level (2-tailed).

Table 13. Repayment * Monthly Income_New Cross-tab

Count		Monthly Income_New			Total
		<1500	1500-3000	3000-5000	
Repayment	goodpayer	28	91	53	172
	default	64	17	10	91
Total		92	108	63	263

From the above cross table (Monthly Income) we can see that the no. of clients having family members less than four are much higher

than the clients having family members more than four. So it can be one of the reasons for the contradiction to the hypothesis that as the no. of family members increases the liability increases. From the above cross table it was found out that as monthly income increases the repayment capacity of the clients increases.

The same can also be inferred from the correlation table which shows that as the income increases the repayment capacity of the client increases. But the low correlation coefficient may be due to the data collected and the sample size taken for the analysis. Hence the hypothesis that as the income increases the repayment capacity also increases is proved.

Asset

Table 14. Repayment * Asset_New

		Asset_New				Tota
		<2000	20000-	40000-	>70000	
Repavme	goodpay	4	1	4	7	17
	default	8	5	1	0	9
Tota		13	1	4	7	26

Table 15. Correlations of Repayment and

		Repayment	Asset_New
Repavme	Pearson	1	- *
	Sig. (2-tailed)	.	.00
	N	26	26
Asset Ne	Pearson	- *	1
	Sig. (2-tailed)	.00	.
	N	26	26

** Correlation is significant at the 0.01 level (2-tailed).

From the asset correlation table it can be inferred that asset increases the repayment capacity increases. And also the coefficient is statistically significant as it is more than 0.6, which is good for the socioeconomic data analysis. The cross tabulation of asset against the repayment also signifies that as the asset increases the repayment capacity of the client increases. 85% of the client having asset less than 20000 were default where as the client having more assets are good payers.

Liability

Table 16. Repayment * Liability_New Cross-tab

Count		Liability_New			Total
		<20000	20000-40000	40000-70000	
Repayment	goodpayer	154	6	12	172
	default	91	0	0	9
Total		245	6	12	263

Table 17. Correlations of Repayment and Liability_New

		Repayment	Liability_New
Repayment	Pearson Correlation	1	-.189**
	Sig. (2-tailed)	.	.002
	N	263	263
Liability_New	Pearson Correlation	-.189**	1
	Sig. (2-tailed)	.002	.
	N	263	263

** . Correlation is significant at the 0.01 level (2-tailed).

From the liability correlation table it can be inferred that as the liability increases the repayment capacity of the clients are increased.

But it is in contradiction with the general hypothesis that as the liability increases the repayment capacity decreases. Thus it can be inferred that the good payers and the default has no differentiation with regard to the liability they owned. The reason might be due to the fact that there was no data for which they had taken the loan whether it was for consumption or as a working capital. Hence due to non availability of data it is not possible to infer any conclusion that what kind of relationship the liability has with the repayment capacity of the client.

CONCLUSION OF THE DATA ANALYSIS

As per the above analysis the hypothesis taken under scoring the variables for qualitative score card are consistent for the variables like occupation, education & monthly income hence there is no need to change the scores that are assigned. But any conclusion could not be taken out regarding the variables like asset, family size and liability due to some limitation.

Limitations to Data Analysis

In Indian context, till date most of the MFIs are dependent upon the qualitative judgment of their credit officers with regards to give loan to a client or not. This is for the first time an attempt has been taken to develop a statistical score card to evaluate the credit worthiness of a client prior to disbursement of the loan. Hence the data regarding all the variables chosen for the development of the score card is not available with the MFIs , which became an hurdle in proving the statistical significance of the qualitative score card . Apart from that some data for example Asset, family size & Liability are not complete to prove the statistical significance in relation to the repayment behaviour the client and also to assign scores to the variables chosen.

Recommendations for Future Improvement

To develop a score card having statistical significance the following things to be taken into consideration:-

- a. The questioner should be filled up at time of enrolment prior to the disbursement of the loan, so after the repayment period the data can be utilized to analyse the impact of different variables on the repayment behaviour of the client.
- b. During the data collection utmost care should be taken in collecting information regarding the assets & liabilities. Only those data which have significant contribution towards the repayment behaviour of the client should to considered in calculating the asset and the liability of a particular client.
- c. The qualitative score card should be utilized to as a pilot basis for at least for a period of six month to evaluate the relevance of the score card as per the target population.

Strategy for Pilot Implementation of the Qualitative Score card Scorecard

Before the model will be used fully in production, it is recommended to accomplish some steps gradually, in order to minimize mistakes and unexpected events that may affect the lenders confidence regarding the tool. A detailed process flow for pilot implementation is shown in figure 1. The most important steps that should be involved in the pilot implementation, before the massive start are:

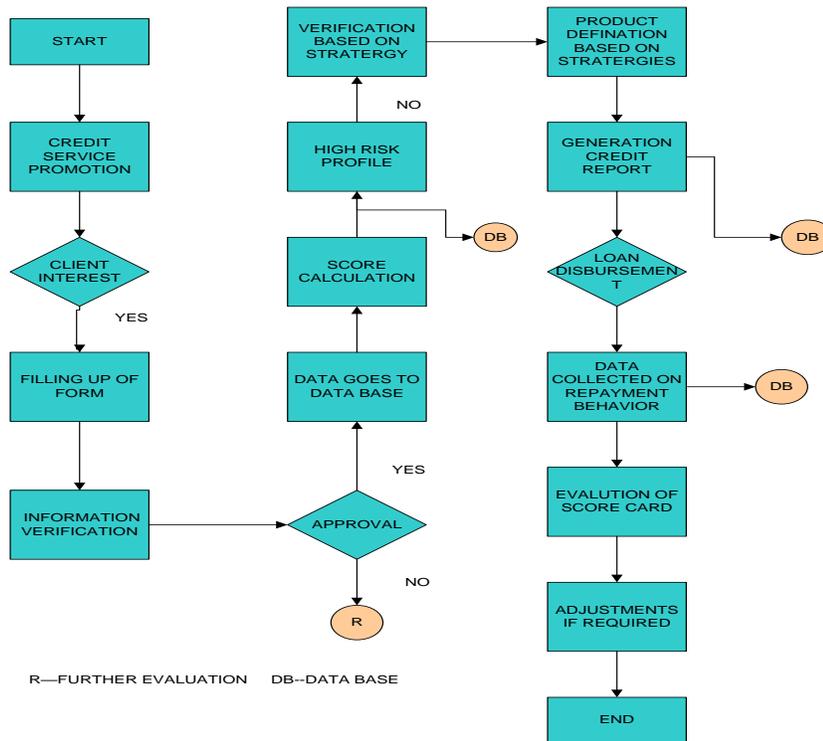


Figure 1 : PROCESS FLOW FOR PILOT IMPLEMENTATION

Figure 1 Process Flow for Pilot Implementation

1) Geographical Selection for Pilot

The first and a very important step is the selection of the right geographical segment to perform the pilot implementation. It is recommended to move forward on the basis of four criteria's for choosing the pilot segment: Average amount of population: Biggest segments may implicate big effort for implementation and could affect important portion of population. On the other hand, small branches may not have enough population for optimal evaluation. Thus, average population geographical segments should be selected. To avoid

analysing unrepresentative population, a segment with similar behaviour as the total population, regarding risk level should be chosen. Follow Up simplicity: In order to allow easy mobilization, the segments selected should be close to the location of the persons in charge of the follow-up. Geographical Segment staff availability: It is important to count on prepared and willing staffs that ensure that the tasks will be done in the right way.

2) Preparation of the Resources for the Pilot Implementation

The objective of this step is to ensure that the results will be reliable and efficient, so it is important to plan this before the process starts. Standardization of the process flow in the approval and renewal process: This sub-step should be fixed, based on the process flow. The right way of doing all the stages in the granting process will ensure low threat of disappointment.

3) Associated Staff Training:

Based on the standards established, Loan Officers, Coordinators and IT staff must be trained. Credit Officer (Loan Officer): the Loan Officer will be in charge of the contact with clients so his training must contain at least:

- _ Standard way of credit products promotion
- _ Standard way of collecting first data
- _ Standard of full data collection through visit
- _ Interpretation of results
- _ Process for each risk profile
- _ Verification process
- _ Decision taking (regarding strategies determination based on autonomies)
- _ Concept issuing for the referral.
- _ Referral to Credit Committee or Managing Board (as for decision as for review)
- _ Notification and disbursement process
- _ Data Storage.

Credit Department Head:

- _ Full understanding of the task of Loans Officers
- _ Periodical follow up of credit process
- _ Controls in the process
- _ Decision taking regarding autonomy
- _ Review of application before referral to committee or Managing Board
- _ Referral to Credit Committee or to Managing Board

Credit Committee:

- _ Decision taking in applicants evaluation based on risk profile
- _ Collateral Definition regarding scoring strategies

Managing Board:

- _ Decision taking in applicants evaluation based on risk profile
- _ Collateral definition regarding scoring strategies
- _ Special cases evaluation

4) Pilot Implementation

During pilot implementation utmost care should be taken in accurate saving of the information, which is a key factor for the evaluation reports. Periodical Follow-up: In order to have permanent control of the Scoring Model performance it is suggested to collect daily the application information and to perform weekly reports for systems calibrations. Pilot implementation report: This information will be the main guide line for the latter massive implementation, and should have at least the following:

- _ Description of the Pilot Implementation Process carried out at each branch.
- _ Evaluation of “Step by Step” process carried out with a specific focus on things to improve.
- _ Proper documentation of process reports.

5) Mass-implementation

Before starting the mass-implementation, this stage must be carefully planned keeping in mind the findings and the outputs from the pilot implementation.

REFERENCES

- Anand, S., Bala, P. K., and Mohapatra, S. E-microfinance: A Cognitive 'just' Rural Business Model, *International Conference on Technology and Innovations in Marketing*, 12, 2008, 295-305 .
- Anand, S. and Parashar, V., Integrating Local and Global Knowledge through ICT: Implications for Rural Business and Development'. *IIMB Management Review*, 13(4), 2006, 42-58.
- Anand, S. and Parashar, V., Emergence of e-Microfinance : Involvement of SHG (Self Help Group), Business Cognizance, 2006, <http://mba.iiita.ac.in/jan06/insight.htm>
- Carnoy, M. and Castells, M. Globalization, the Knowledge Society, and the Network State: Poulantzas at the millennium, *Global Networks*, 1(1), 2001, 1-18.
- Cantor, R. and Packer, F. The Credit Rating Industry, *The Journal of Fixed Income*, 5(3), 1995, 10-34.
- Jacoby, M.B., Home Ownership Risk Beyond a Subprime Crisis: The Role of Delinquency Management, *Fordham Law Review*, 76, 2008, UNC Legal Studies Research Paper No. 1074442.
- Lars Norden and Martin Weber, Informational Efficiency of Credit Default Swap and Stock Markets: The Impact of Credit Rating Announcements, *Journal of Banking & Finance*, 28(11), 2004, 2813-2843.
- Reinhart, C.M., Default, Currency Crises, and Sovereign Credit Ratings, *World Bank Economic Review*, 16(2), 2002, 151-170.

- van der Velden, M., Programming for Cognitive Justice Towards an Ethical Framework for Democratic Code. *Interacting with Computers*, 17, 2005, 105 -120.
- Visvanathan, S., A Celebration Of Difference: Science And Democracy in India, *Science*, 280(536), 1998, 36-75.
- Visvanathan, S., Knowledge and Information in a Network Society, *India Seminar*, 2001, 503.
- Visvanathan, S., Transfer of Technology, *International Encyclopaedia of Social and Behavioral Sciences*, Oxford, Elseiver Science, 27(4), 2002, 350-365.
- Shiva, V., Biopiracy: The Plunder of Nature and Knowledge, *Cambridge*, South End Press, 1997.
- <http://www.mmaglobal.com>, 2007.

Taking the Eeek Out of Economics: A Case Study of an Online Professional Development Course for Elementary Classroom Teachers

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ABSTRACT

The Kentucky Council on Economic Education (KCEE) and the Kentucky Department of Education's e-Learning Kentucky recently collaborated to develop and facilitate an interactive, online professional development course titled, "Taking the Eeek Out of Economics: Economics for the Elementary Classroom". The course was designed to encourage elementary educators to integrate economics across the curriculum using materials from the National Council for Economic Education resources and activities, and focusing on teaching strategies to differentiate learning for all students. The course was funded by an Excellence in Economic Education grant. This case study presents the results of the collaborative professional development course in terms of teacher attitude towards economic education and student learning outcomes. Initial analysis of the results indicates a positive increase in teacher attitudes as well as a statistically significant increase in student knowledge of basic economic concepts.

Keywords: Classroom, Case Study, Education, Online

INTRODUCTION

Taking the Eeek Out of Economics: A Case Study of an Online Professional Development Course for Elementary Classroom Teachers

The Kentucky Council on Economic Education (KCEE) and the Kentucky Department of Education's e-Learning Kentucky recently collaborated to develop and facilitate an interactive, online professional development course titled, "Taking the Eeek Out of Economics: Economics for the Elementary Classroom". The course was designed to encourage elementary educators to integrate economics across the curriculum using materials from the National Council for Economic Education resources and activities, and focusing on teaching strategies to differentiate learning for all students. This case study presents the results of the collaborative professional development course in terms of teacher content knowledge, attitude towards economic education, and student learning outcomes.

Economic Education in Elementary Schools

Elementary students are confronted with economic issues that require them to use decision making skills on an everyday basis. Will they save their allowance, invest it, or spend it? Will they use their time on the weekends to study and invest in their human capital or use their leisure time to play video games? In other words, all students are faced on a regular basis with the basic economic problem of using limited resources to satisfy unlimited wants. Strong economic instruction and student understanding is important to develop at the elementary level because students "who are not articulate and well informed about economic principles and who lack the ability to apply economic reasoning skills will find the economic issues they face both as young children, and as adults, complex and confusing" (Meszaros

and Suiter, 1998). Economic literacy is and should be an integral component of elementary classrooms. Economic concepts are required content beginning at the kindergarten level in 49 states (Rodgers, Hawthorne, and Wheeler, 2006, p. 4). Specific economic content, skills and knowledge students should have upon graduation from high school are provided in the National Council on Economics' Voluntary National Content Standards in Economics (2005). These national standards include expectations for elementary students and have been used to develop state level content standards.

Despite these developments, studies on economic literacy show that many people still do not understand the role and importance of the entrepreneur in our economy. Louis Harris & Associates, Inc. recently conducted *The Standards in Economics Survey* on behalf of the National Council on Economic Education. The survey was designed to evaluate adult and student understanding of knowledge about the U.S. economy, familiarity with basic economic principles, and the importance of entrepreneurship. The results of the study indicated that students and adults lacked a basic understanding of the core economic concepts of scarcity of resources, money, and inflation, with less than half demonstrating knowledge of these terms. Three out of four American adults, compared with three out of five high school students, were aware that a person who starts a business to produce a new product in the marketplace is an entrepreneur. One in four students did not know whether someone who starts a business to produce a new product in the marketplace is a manager, a bureaucrat, or an entrepreneur (Louis Harris & Associates, Inc.).

Oftentimes, teachers have to teach a tightly prescribed curriculum set by the state and/or national standards. The question becomes, how can teachers find the time to effectively teach everything and still ensure student knowledge and understanding of the required content? Standard textbooks frequently "do not treat subject matter with the breadth and depth necessary to fully develop ideas and concepts"

(Vacca & Vacca, 2005, p. 158). Elementary textbooks often do not include economic content or include incorrect content. Economic terms are often interspersed throughout the textbooks without explanation or integration and have even been incorrectly defined (Meszaros and Engstrom, 1998).

Other studies have shown that economic education and an understanding of basic economic concepts can be made an effective part of the teacher training process: "Working with elementary education teachers in a graduate class while they teach economics to elementary students as part of course requirements, shows that economics can be added to the existing curriculum. Students' understanding of economics concepts will increase if teachers and economic educators work together in a concerted, sustained effort." (Sosin, Dick, and Reiser). The implication from this line of research is that economic education can be greatly enhanced by directly involving teachers in the process—as opposed to simply providing curriculum materials for them.

Other studies lend support to this contention. For example, a recent study found that students of teachers who participated in teacher training workshops had significant gains in their understanding of economics. As a result, in-service workshops are an effective method for preparing teachers to teach economics in their classrooms (Pierce). Even other studies have also supported the belief that teacher in-service training and university courses in economic education have significant effects on teacher knowledge as well as student cognitive learning (Schober, Hungerford). The influences of teacher professional development and university-based courses on implementation of economic education in the K-12 classroom have also been examined. Specifically, Sosin et. al. found that the "continuing support from instructors and sharing of experiences from the classroom help the teachers to find successful instructional strategies, reduce their stress over making changes in their teaching, and

generate enthusiasm for teaching economics" (Sosin, Dick, and Reiser). The overall thrust of these studies indicates that the collaboration between classroom teachers, university personnel, and members of the business community enhances student learning and bodes well for the future of economic education.

Professional Development Course

People who function successfully in today's society need to make economic decisions in their everyday lives. These decisions have become increasingly difficult due to the numerous goods and services available on the market. Elementary students need to learn how to make sound decisions by accessing and assessing consumer information and comparing and evaluating goods and services. Elementary students are faced on a daily basis with situations which require them to use economic thinking and decision making skills. They are faced with the basic economic problem of scarcity—using limited resources to satisfy their unlimited wants. Rooted in these basic economic premises, the Kentucky Council on Economic Education (KCEE) and the Kentucky Department of Education's eLearning Kentucky recently collaborated to develop and facilitate an interactive, online professional development course titled, "Taking the Eeek Out of Economics: Economics for the Elementary Classroom". The course was designed to encourage elementary educators to integrate economics across the curriculum using materials from the National Council for Economic Education resources and activities, and focused on teaching strategies to differentiate learning for all students. The course development and assessment was conducted with the financial support from a Council on Economic Education Excellence in Economic Education grant.

The course was developed as a partnership between the Kentucky Council on Economic Education and the Kentucky Virtual Schools, e-Learning Kentucky. The mission of the Kentucky Council on Economic

Education is to “to champion teaching and learning economics and personal finance with academic integrity, responsiveness, and creativity.” For this project, the Kentucky Council on Economic education provided the content specialists for the course design, a team of reviewers, development of the course, resources to support the course, collection of the student assessments, and evaluation of the effectiveness of the online professional development course.

E-Learning Kentucky, whose mission is to assist Kentucky educators by “providing high quality, facilitated, media-rich and interactive online professional development and training thus helping to improve P-12 education” (e-Learning Kentucky, 2009). E-Learning Kentucky provided training for the course design team, the team of reviewers, a course facilitator, registration and hosting of the course, surveys of the teachers, and resources to supplement the online professional development course. The online professional development courses offered by e-Learning Kentucky were available online 24 hours a day, 7 days a week, allowing the participating teachers access to the course at their convenience.

The course explored economic concepts included in the *Kentucky Program of Studies* and *Kentucky Core Content for Assessment* through interactive, hands-on lessons, activities, and resources that could be immediately integrated into participating teachers’ elementary classroom instruction. The goals for the course included the opportunity for participating teachers to:

1. Strengthen teachers’ understanding of developmentally appropriate economic content knowledge for elementary students.
2. Examine economic content standards at both state and national levels.
3. Learn about theory and best practice in teaching economic concepts and thinking to elementary students.

4. Explore and analyze web sites and other technology for use in learning economic content and develop a list of technology resources appropriate for teaching economic content to elementary students.
5. Create instruction that will incorporate technology and will facilitate students' learning of economic concepts and thinking.
6. Reflect on classroom practices.
7. Develop an integrated, interactive weblibliography that can be integrated into classroom instruction.

The structure of the course itself consisted of seven sessions—an orientation session and six content sessions. The sessions were offered online through the Blackboard course management system. Each session lasted for one week, beginning on a Wednesday and ending on the following Tuesday. During each session, each participating teacher completed an assignment that included readings, activities, and online discussions. Surveys were also required at the beginning and upon completion of the course. The estimated time for completing each weekly session or module was 2-4 hours. The outline for the individual sessions was as follows:

- | | |
|-------------|---|
| Orientation | During the Orientation Session, you will have an opportunity to explore the course website, to experiment with the course tools and to introduce yourself to your facilitator and fellow participants. Orientation takes place during the first week. |
| Session 1 | Economics—Getting A Running Start! This session examines the role of economics in today's classrooms, gives participants an overview of what economics is, and gives them resources to |

- begin looking at that can easily be integrated the content they teach in the K – 5 elementary classroom.
- Session 2 Setting The Standard For Economics Integration. This session examines state and national standards in economics and participants will begin to examine practical resources that can be easily integrated into the elementary classroom. Participants will begin developing a plan that includes resources and how they might integrate them into their own classroom.
- Session 3 Scarcity—The Fundamental Economic Problem. Students are faced with the fundamental economic problem in their everyday lives. This session presents ideas for integrating scarcity lessons and activities.
- Session 4 To Market, To Market We Go! This session presents the concepts of markets, goods and services, consumers and producers, barter, money, and trade. It also looks at the use of theory of multiple intelligences in teaching economics to elementary students.
- Session 5 Decisions, Decisions, Decisions. This session will explore the economic concepts of consumer decision making. It will also examine the use of graphic organizers in developing students' economic understanding.
- Session 6 Financial Literacy for All. This session presents the case for developing elementary students' understanding of financial concepts such as earning, spending, saving, investing, budgeting, and wisely using credit. Participants' economic

concepts webliography and plans for integrating economics into their own classrooms should be finalized and final surveys will also be completed.

As a final product, participants created an economics webliography. This webliography was a compilation of website resources that were woven throughout the course. The idea was for the participating teachers to leave the course with multiple online resources for their teaching. For each concept listed, the teachers researched and found three resources that could be used to teach the concept. The template included the name of the website, the URL, a description of how the website could be used in the classroom setting, and the economic concepts taught. Resources for the concept of scarcity were included to provide a starting point for the teacher participants.

In order to successfully complete the course, the following criteria were used for evaluating successful participation in and completion of the course:

- | | |
|---------------------|--|
| Course Activities | <ol style="list-style-type: none">1. Participants were expected to complete the required course readings and activities as posted in each of the session assignment pages.2. Participants were expected to post reflections about the assigned readings and the completed activities in the online course discussion. |
| Discussion Postings | <ol style="list-style-type: none">1. Participants were expected to respond to the discussion prompt(s) in each of the sessions with an original posting that includes information from readings and activities.2. Participants were expected to respond |

	thoughtfully to the postings of other course participants in each session, possibly referencing readings, etc.
	3. Guidelines for original discussion postings and responses were available in the course orientation.
Participant Assessment	<ol style="list-style-type: none">1. Participants were expected to complete the final product and post their work as directed during the final course session.2. Participants completing team products were expected to work collaboratively with their team and include the names of all team members on the final product posting within the course.
Course Surveys	<ol style="list-style-type: none">1. Participants were expected to complete all course surveys within one week of the assignment.

Each participating teacher completed three surveys—a demographic survey, a course pre/post assessment, and an overall course evaluation. They also conducted pre and post-test assessments with the students in their individual classrooms. The purpose of these assessments was to evaluate the effectiveness of the course in terms of the impact on teacher knowledge and integration of economic concepts into classroom teaching. In addition, the goal of the assessment was to evaluate the impact of the teacher participation in the online professional development economics course on student knowledge of economic concepts.

Evidence of Documented Student Achievement Changes

Four hundred fifty-seven students from 17 Kentucky elementary classrooms participated in this initial assessment of the *Taking the*

EEK Out of Economics online professional development course. Assessments were designed for both students at the primary and intermediate levels. For the purpose of this analysis, only the results of the students in fourth and fifth grade are included. Students at the primary level completed a different assessment instrument which will be included in future analysis—therefore, the analysis of student assessment data for this study included 376 fourth and fifth grade students. The questions on the intermediate level assessment were questions from the Council on Economic Education's Basic Economics Test (BET). This is a standardized test of economics that is nationally norm-referenced for use with intermediate level students. The BET assessment questions are based on the Voluntary National Content Standards in Economics. The intermediate level assessment instrument used for this study is located in the Appendix A.

The student data was analyzed using a t-test with a pooled estimate of population standard deviation to determine the significance of the difference between the mean pretest and posttest scores. The t-test was used to determine if the difference in the sample means for knowledge (pretest scores and posttest scores) can be attributed to the influence of the teachers' participation in the *Taking the EEEK Out of Economics* online professional development course, or if the difference could have happened by chance. Because the pre- and post-test sample sizes varied, the t-test statistic was computed using a pooled estimate of population standard deviation. The following t-statistic which compensates for uneven samples was used to test the hypothesis about two means:

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (u_1 - u_2)}{s^* \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}, \quad \text{where } s^* = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}},$$

where \bar{X} -bar is the pre/post-test mean, u_1 is the pretest population mean, u_2 is the post-test population mean, s_1 is the pretest variance, s_2 is the post-test variance, n_1 is the pretest population size, and n_2 is the post-test population size. The n for the pre-and post tests were different as some classes experienced growth whereas others experience attrition. This test was used to test the hypothesis that there was no significant difference between the pre- and post-test student means for each question on the instrument.

Change in Student Economic Knowledge

t-test statistic. The results of the t-test analyses presented in Table 1 show that the elementary students scored significantly higher on all 20 of the 20 questions related to knowledge of economic concepts.

Table 1 Statistical Analysis of Student Assessment

	Question 1	2	3	4	5	6	7	8	9	10
PreMean	0.20	0.35	0.30	0.16	0.44	0.39	0.78	0.66	0.85	0.33
PostMean	0.70	0.77	0.73	0.21	0.58	0.53	0.84	0.83	0.89	0.46
T-Test	-36.52	-27.30	-27.88	-3.78	-7.62	-7.57	-4.97	-12.05	-4.44	-7.37
Sig.	**	**	**	**	**	**	**	**	**	**

	Question 11	12	13	14	15	16	17	18	19	20
PreMean	0.48	0.61	0.55	0.49	0.56	0.48	0.59	0.57	0.81	0.65
PostMean	0.67	0.70	0.77	0.68	0.74	0.67	0.76	0.76	0.88	0.80
T-Test	-10.59	-5.47	-13.57	-10.80	-10.94	-10.96	-10.82	-11.52	-7.40	10.39
Sig.	**	**	**	**	**	**	**	**	**	**

In fact, the student scores for all of the questions were statistically significant at the 99% level for the elementary intermediate grade levels initiative. The assessed content included concepts such as productive resources (natural, capital, and human), scarcity, opportunity cost, functions of money, economic wants, specialization, price, productivity, competition, demand, income, services, and public goods. A copy of the assessment instrument is provided in Appendix A.

Evidence of Teacher Attitudinal and Content Knowledge Changes

Each of the 17 participating teachers completed course surveys to evaluate the impact of the course on their attitudes toward and knowledge of economic concepts. In terms of demographic information, the participating teachers all taught in elementary schools throughout the state and included grades kindergarten through fifth grade students. In terms of their teaching experience, 8% had taught between one to four years, 34% had taught between five to ten years, 50% had taught between 11-20 years and 8% had taught 21 years or more. Their educational levels included 8% with at least a bachelor's degree, 42% with master's degrees, and 50% with Rank I degrees. (A Rank I degree is a graduate degree consisting of at least 30 graduate credit hours focused on a particular area of study.)

The course teacher survey instruments also included attitudinal and content knowledge questions. Questions number one through eight were designed using a bi-polar adjective format which is a variant of the semantic differential test design. These eight questions addressed teacher attitude towards economics and attitudes toward economic teaching and curriculum materials. Questions nine through eighteen were multiple-choice questions addressing the fundamental economic concepts contained in the online professional development course and emphasized by the National Council on Economic Education. The questions also represented the three cognitive areas of

knowledge, comprehension, and application from Bloom's taxonomy (Bloom).

Because the pre- and post-test teacher sample sizes varied, the t-test statistic was computed using a pooled estimate of population standard deviation. The following t-statistic which compensates for uneven samples was used to test the hypothesis about two means:

$$t = \frac{(\bar{X}_1 - \bar{X}_2) - (u_1 - u_2)}{s^* \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}, \quad \text{where } s^* = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}},$$

where \bar{X} is the pre/post-test mean, u_1 is the pretest population mean, u_2 is the post-test population mean, s_1 is the pretest variance, s_2 is the post-test variance, n_1 is the pretest population size, and n_2 is the post-test population size. The n for the pre- and post tests were different as some teachers would arrive too late to take the pre-test, while other would leave before the post-test could be completed. This test was used to test the hypothesis that there was no significant difference between the pre- and post-course means for each question on the instrument. The results of the statistical analysis are shown in Table 2.

The results for the first eight questions, shown above in Table 2, focused on teacher perceptions of economics, teachers' perceptions of the availability of materials, curriculum and websites to teach economics, and teachers' perceptions of their abilities to teach economics. The responses to question one were very favorable initially—so much so that significant improvement may have been difficult to achieve.

Even so, the mean scores improved, although the improvement was not statistically significant. Overall, the t-test statistic indicated that—as a result of the professional development training—teachers felt significantly more confident about their ability to deliver economic education.

Table 2 Teacher Attitudinal Questions

Question	Mean Score Pre/ Post-Training
1. I would describe my attitude towards economics as being _____. VERY FAVORABLE 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 VERY UNFAVORABLE	pre: 2.00 post: 1.47
2. When it comes to <i>current</i> economic activity in the state, Kentucky is _____ other states. WAY BEHIND 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 WAY AHEAD OF	pre: 2.71 post: 3.06
3. I believe that there are currently a(n) _____ number of economic opportunities in Kentucky. ENORMOUS 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 LIMITED	pre: 3.35 post: 2.59
4. To the best of my knowledge, quality curriculum materials for teaching economics are _____. READILY AVAILABLE 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 DIFFICULT TO FIND	pre: 3.12 post: 1.53
5. I am _____ with internet or web site locations regarding economics. UNFAMILIAR 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 VERY FAMILIAR	pre: 2.71 post: 4.65
6. At the current time, I feel _____ my ability to find quality curriculum materials on economics. CONFIDENT OF 1 -- 2 -- 3 -- 4 -- 5 -- 6 -- 7 GENERALLY UNCOMFORTABLE WITH	pre: 3.00 post: 1.41
7. I feel that I am currently _____ to teach a curriculum on economics. HIGHLY QUALIFIED 1 -- 2 -- 3 -- 4 -- 5 -- 6 -- 7 GENERALLY UNQUALIFIED	pre: 3.00 post: 1.65
8. Given my current training, I _____ teaching a unit(s) on economics. DREAD 1 --- 2 --- 3 --- 4 --- 5 --- 6 --- 7 LOOK FORWARD TO	pre: 3.53 post: 4.82

Specifically, the scores indicate that teachers felt much more confident about the availability, and of their efforts to find economic education materials. Additionally, the teachers felt more qualified to

teach economics curricula, and that they looked forward to teaching a unit on economic concepts.

Specific anecdotal feedback from teachers that further supported their positive attitudes as a result of the course. This course feedback included comments such as:

- “I have learned so much from this course! I have gathered so many valuable economic resources to use with my students and to share with my colleagues! Thanks a million!”
- “My class had a blast learning about economics this year. I have never taught it quite like this before and I liked it. My class learned a lot of vocabulary. ... Thanks so much for the information and resources.”
- “I have learned so much from this class. ... I have gathered all the websites and books and lessons that have been posted and I’m going to share them with the teachers at my school. They are always grateful to have resources sent to them. I feel a lot more comfortable teaching economics, especially since I have never taught it before! I know now I can go to NCEE or KCEE to find ideas and I’m sending the Econ Poster for Kids link to my librarian so she can see the long list of books we need to order for our library. Thanks for a great class.”

Other anecdotal feedback included: 100% of the teachers indicated that they found the discussion board topics to be beneficial; 71% rated the overall quality of the workshop to be excellent with 29% rating it very good; 100% found the webliography to be an effective and usable project; 100% found the content of the workshop to be easily transferable to the classroom; and 94% felt knowledgeable about teaching economics in their own classrooms as a result of participating in the course.

Table 3 Teacher Content Knowledge

Question	Mean Score Pre/Post- Training
9. The opportunity cost of a new public elementary school is the	pre: 0.67 post: 0.92 ***
10. The specialization of labor usually results in	pre: 0.58 post: 0.83 *
11. Which question must be answered by people in all economic systems?	pre: 0.92 post: 0.92
12. What is meant by the statement that every economic system faces the problem of scarcity?	<i>pre: 0.50</i> <i>post: 0.75</i>
13. Which do economists consider to be a productive resource (factor of production)?	pre: 0.67 post: 0.75
14. People who take the risks of organizing productive resources to produce goods and services in the expectation of making profits are	pre: 0.83 post: 0.83
15. In a market economy such as that in the United States today, prices for goods and services are established and regulated by	pre: 1.00 post: 1.00
16. The three main forms of business organization are the	pre: 0.33 post: 0.67 **
17. The form of business organization that poses the <i>most</i> risk to the owner is the	pre: 0.67 post: 0.83
18. A city council operating on a fixed budget makes more resources available for hiring police officers but cuts back on road construction. One can conclude from this decision that	pre: 0.83 post: 0.93

***=97% significance level, **=96% sign. level, * 93% sign. level

The final portion of the analysis focused on the teacher's knowledge of basic economic concepts. The participating teachers completed ten basic economic content questions. The questions are

provided in Appendix B and the results are shown in Table 3. These questions were different from the first eight in that they were in a multiple-choice format to assess the teacher's knowledge of various basic economic concepts. As a result, the scores for each of the questions reflect the percent of respondents that got the question correct during both the pre- and post-tests. To illustrate, 100% of the respondents correctly identified demand as being the factor that establishes and regulates prices for goods and services" (see question 15 in Appendix B).

The scores for all but three of the content questions in Table 3 showed improvements. However, only three of the ten questions had significant increases. Question number one focused on the concept of opportunity cost—this concept was included in the third session or module of the course. It was described in depth and links to various lesson plans, videos, and teachers resources were provided for this concept. In general, the topics in questions 9-18 were most closely associated with the *Taking the Eeek Out of Economics* course, Kentucky's Learning Goals and Academic Expectations, and the National Council on Economic Education's *Voluntary National Standards*. The fact that the improvements were so slight for all but three of the questions indicates that teachers had some degree of prior knowledge of economic concepts. Most importantly however, the results of the student assessments indicate that the online professional development course did, in fact, improve elementary students' knowledge of key economic concepts—which was the preferred outcome of the course. Students who understand basic economic concepts are more able to make sound everyday economic decisions throughout their lives.

CONCLUSIONS

The use of professional development courses to assist teachers in their instruction of economic concepts to elementary students is not a new concept. However, the advent of online instruction has presented a new opportunity for teachers to develop their pedagogical and content knowledge in the content area of economics. This study investigated the effects of a seven week online professional development course, *Taking the Eeek Out of Economics*, targeted specifically to elementary teachers for the purpose of enabling them to increase their students' knowledge and understanding of basic economic concepts. Participating teachers completed pre-course and post-course assessment surveys and conducted pretest and posttest assessments of basic economic concepts with their students. The results of the initial offering of the online professional development course offer a positive, affirming impact of the course on teachers and most importantly on the economic content knowledge of their students.

REFERENCES

- Bloom, Benjamin, *Taxonomy of Educational Objectives: The Classification of Educational Goals, Handbook 1: Cognitive Domain*. McKay Publishing: New York, 1956.
- Hungerford, Larry Lee, *Some Factors That May Influence the Teaching of Economics by North Carolina High School Social Studies Teachers*. UMI ProQuest Digital Dissertations. (AAT 8523651), 1985.
- Meszaros, B. and Engstrom, L. *Voluntary National Content Standards in Economics: 20 Enduring Concepts and Benchmarks for Beleaguered Teachers, Social Studies and the Young Learner* November/December, 1998, 7-12.

- Meszaros, B. and Suiter, M., The case for economics in the elementary classroom. *The Region*, December 1998, Retrieved January 17, 2007, from <http://research.mpls.frb.fed.us/pubs/region/98-12/mexzaros.cfm>.
- National Council on Economic Education, *Voluntary National Content Standards in Economics*, National Council on Economic Education. New York, 2005.
- NCEE, What American Teens and Adults Know About Economics. Harris Interaction Market Research, 2007, Retrieved August 15, 2009, from <http://www.ncee.net>.
- Pierce, Randal Harry, An Assessment of an In-Service Workshop's Effectiveness in Preparing Teachers to Use an Integrated Instructional Approach for Economic Education. *UMI ProQuest Digital Dissertations*. (AAT 8300324), 1982.
- Schober, Howard Michael, An Examination of the Effects of Inservice Training on Selected Aspects of Economic Education, *UMI ProQuest Digital Dissertations*. (AAT 8301607), 1982.
- Sosin, K. , Dick, J. and Reiser, Mary Lynn, Determinants of Achievement of Economics Concepts by Elementary School Students, *The Journal of Economic Education*, 28, 1997, 100-121.
- Vacca, R. and Vacca, J., Content Area Reading: Literacy and Learning across the Curriculum (8th ed.), New York, NY: Allyn and Bacon, 2005.
- Walstad, W. and Robson, D. *Basic Economics Test*, New York, NY: National Council on Economic Education, 2005.

An Empirical Study on the Factors Influencing RFID Adoption and Implementation

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ABSTRACT

The purpose of this study is to investigate which factors are important for RFID adoption and implementation. This study suggests four influential factors that include nine variables – perceived benefits, perceived costs, standardization, top management support, IT knowledge capability, environmental uncertainty, competitive pressure, inter-organizational cooperation, inter-organizational trust – impacting the intent of RFID adoption and extent of RFID use. Reviewing the literature, this study is suggested a research model and develop four hypotheses to be tested. Data are collected from 171 companies related to the RFID in Korea. The results of hypothesis testing are as follows. First, perceived benefits, standardization, top management support, IT knowledge capability, environmental uncertainty, competitive pressure and inter-organizational cooperation were significantly related to intent of RFID adoption. Second, perceived benefits, standardization, top management support, competitive pressure and inter-organizational cooperation were significantly related to an extent of RFID use. In conclusion, study's limitations and implications were treated.

Keywords: *Adoption, Implementation, RFID (Radio Frequency Identification), RFID Adoption Process*

INTRODUCTION

RFID (Radio Frequency Identification) is a wireless frequency of recognition technology that can be used to recognize, trace and identify people, things and animals using radio frequency (RF). RFID system comprises three components: an antenna, RFID tags (transponders) that are electronically programmed with unique information and an RF module (reader) with a decoder (transceiver). RFID will bring about a many changes in manufacturers, distributors and etc.

RFID is still marginally adopted across the globe, and the future of RFID still remains unclear due to limitations in the form of high implementation and operation costs, the lack of standardization, and unawareness of its importance (Smith, 2005).

In addition, it takes a relatively long time for firms to make the adoption decision since it requires them to undertake a fundamental strategic review of their business processes and of their relationships with suppliers and distributors before adopting RFID (Lee and Shim, 2007). In accordance with the importance of the increasing RFID techniques increasing, RFID studies are plentifully advanced. Initially, the RFID research was either a research literature or case study (Kern, 2004, Lai and Hutchinson, 2005, Smith, 2005, Roberts, 2006, Schmitt et al., 2007). Empirical research has been recently announced (Neeley, 2006, Lee and Shim, 2007). But most of the existing research on RFID adoption has been restricted to a dichotomous measure of 'adoption vs. non-adoption' or adoption intention. Because RFID research is still an initial stage, research of the RFID performance, integration and usage is little.

The purpose of this study is to investigate which factors are important for the RFID adoption and implementation. To better understand these issues, this paper developed a conceptual model for RFID adoption based on technology-organization-environment framework from technology innovation and information systems (IS) literature (Tornatzky and Fleischer, 1990). This study adopted the TOE framework combined with the inter-organizational factors used by Chwelos et al. (2001) to outline four types of adoption influences for RFID technology.

The following section reviews the relevant literature, on which the RFID adoption. First, this study presents a brief overview of RFID technology and RFID adoption. Second, this study presents the research model and develops testable hypotheses for this study based on prior literature. Third, this study describes the research setting and methodology that was used to test the research model along with the presentation of results. In conclusion, this presents the discussion of the results along with their implications and limitations.

LITERATURE REVIEW

RFID Technology

RFID is a means of automatic identification of objects using radio signals and provides improved data collection and handling through greater accuracy, speeds and visibility. RFID has the potential to lower costs of inventory management, supply chain management and retail checkouts.

Neeley (2006) empirically demonstrated that organizational factors, inter-organizational factors, technology-related factors influenced adoption of advanced connective technology such as RFID. Brown and Russell (2007) investigated three contexts in the RFID adoption status: technological context (relative advantage, compatibility, complexity and cost), organizational context (top

management attitude, IT expertise, organizational size and organizational readiness) and environmental context (competitive pressure, external support and change agents).

Lee and Shim (2007) investigated the RFID, suggesting that performance gap, market uncertainty, vendor pressure and perceived benefits had a positive effect on likelihood of adopting RFID in the healthcare industry. Sharma (2007) added inter-organizational factors to examine the RFID implementation process. This paper argued that RFID can be viewed both as an internal as well as an inter-organizational tool. Schmitt et al. (2007) proposed compatibility, cost, complexity, performance, top management support in the context of RFID adoption.

RFID Adoption process

The process of adoption of innovation in organizations has been divided into a variety of phases. Damanpour (1991) suggests innovation adoption as a process consisting of multiple stages: initiation stage, implementation stage. Grover and Goslar (1993) presented the telecommunications technologies as a three-stage: initiation, adoption and implementation. Initiation includes pressure to change and gathering and evaluation of information culminating in the adoption stage. Adoption involves the decision to commit resources to the innovation. The final stage, implementation, includes development and installation activities to ensure that the expected benefits of the innovation are realized (Grover and Goslar, 1993). And Sharma (2007) present the RFID implementation process as a three-stage model with the following stages: RFID evaluation, RFID adoption decision, RFID integration.

Thus, this study applied these existing theories from the adoption and diffusion literature to frame or model of RFID adoption on two stages: adoption stage and implementation stage. In this study, adoption stage includes initiation and adoption decision stage. Namely,

in adoption stage, top organizational echelons decide to adopt the RFID technology and allocate resources to it. In implementation stage, RFID is put into use by organizational members, clients or customers.

CONCEPTUAL MODEL AND HYPOTHESES

Based on technology innovation and RFID adoption discussed above, this paper proposes a conceptual model for RFID adoption stage with organizational resources. This conceptual model posited nine adoption and implementation factors for RFID. The research model is illustrated in Figure 1. It describes the impact of four sets of antecedent factors – technological, organizational, environmental and inter-organizational characteristics – on the adoption and implementation of RFID in Korea.

The technological characteristics considered are perceived benefits, perceived costs, standardization; organizational characteristics are top management support, IT knowledge capability; environmental characteristics are environmental uncertainty, competitive pressure and inter-organizational characteristics are inter-organizational cooperation, inter-organizational trust. The dependent variable is the intent of RFID adoption in adoption stage and the extent of RFID use in implementation stage.

Technological Characteristics

Perceived benefits have been empirically shown to impact information technology adoption. The organization must perceive that the adoption will either resolve existing problems or provide new business opportunities. Generally, a positive relationship exists between perceived benefits and IT adoption.

Cost has been found to be a significant inhibitor to EDI adoption. The cost to install the necessary hardware/software infrastructure and establish electronic linkage with trading partners can be substantial. The cost of integrating the EDI systems with internal IS can also cause concern and inhibit EDI adoption (Premkumar et al., 1997). The cost of subsequent integration which includes the cost of integrating RFID

with information and resource management systems, cost of purchasing new hardware and software, cost of reengineering business processes due to change in work practices, cost of training employees and cost of replacing existing infrastructure may be quite high(Sharma, 2007).

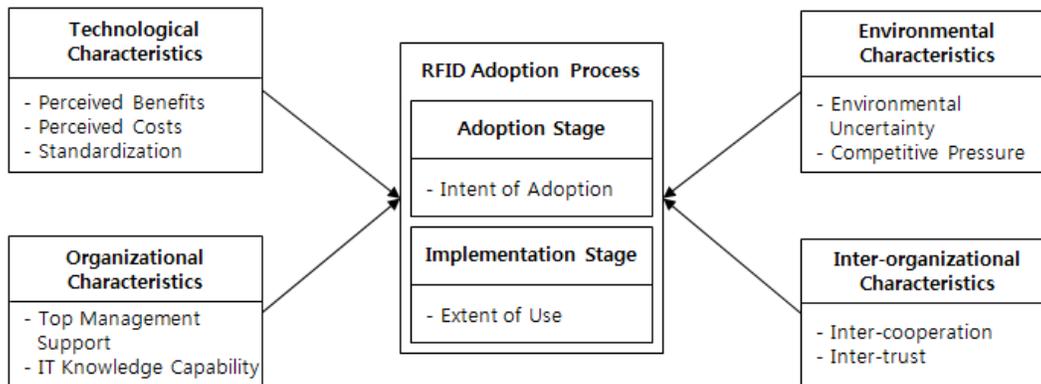


Figure 1 Research Model.

Standardization is defined as the degree of consistency of standards between the partner organizations within an industry and across industries. With RFID adoption, it is important to achieve interoperability between supply chain partners and to move towards open standards for leveraging cross industry benefits (Sharma, 2007). Kim (2008) found that standardization was a significant factor in adopting RFID technologies. Thus, based on previous literature and the arguments presented above, the following is hypothesized:

H1. Technological characteristic is significantly associated with RFID adoption stage.

- H1-1a. There is a positive relationship between perceived benefits and intent of RFID adoption.
- H1-2b. There is a positive relationship between perceived benefits and extent of RFID use.
- H1-3a. There is a negative relationship between perceived costs and intent of RFID adoption.
- H1-4b. There is a negative relationship between perceived costs and extent of RFID use.
- H1-5a. There is a positive relationship between standardization and intent of RFID adoption.
- H1-6b. There is a positive relationship between standardization and extent of RFID use.

Organizational Characteristics

Top management support has been empirically shown to impact IT adoption and diffusion studies (Premkumr and Ramamurthy, 1995, Premkumar et al, 1997, Premkumar and Roberts, 1999). Top management support is critical to the optimal management and use of IT resources in organizations. This factor shows the level of commitment from senior management in utilizing information systems to help and organize survival and prosper which includes its willingness to allocate resources for the adoption of the technology (Sharma, 2007). Top management support recognizes strategic opportunities and provides long-term vision, attributes that are critical for successful adoption of an innovation (Premkumar et al., 1997). Top management support and vision has been studied significantly in RFID studies (Brown and Russell, 2007, Sharma, 2007).

Organizational technical capability refers to the level of sophistication of IT usage and IT management in an organization (Icavou et al., 1995, Chwelos et al., 2001). Recent studies found that organizational IT knowledge is a more important dimension of organizational IT knowledge capability than any other dimension. Mehrtens et al. (2001)

found that knowledge among non-IT professional was a significant determinant of organizational IT knowledge capability. Kim (2008) found that technical capability significantly influenced organizational intention to use RFID technology.

Thus, based on previous literature and the arguments presented above, the following is hypothesized:

H2. Organizational characteristic is significantly associated with RFID adoption stage.

H2-1a. There is a positive relationship between top management support and intent of RFID adoption.

H2-2b. There is a positive relationship between top management support and extent of RFID use.

H2-3a. There is a positive relationship between IT knowledge capability and intent of RFID adoption.

H2-4b. There is a positive relationship between IT knowledge capability and extent of RFID use.

Environmental Characteristics

Environmental characteristics are another force driving organizations to adopt IT. Environmental uncertainty, competitive pressure, industrial pressure, and government policy all serve as pressures on organizations. Empirical studies show that more environmental uncertainty is associated with higher adoption rates (Lee and Shim, 2007). Environmental uncertainty significantly influenced the complete innovation cycle (initiation, adoption, and implementation) (Grover and Goslar, 1993).

A majority of prior studies have shown that competitive pressure has a positive effect on adoption and usage of IT in organizations (Iacovou et al., 1995, Premkumar and Ramamurthy, 1995, Premkumar and Roberts, 1999, Zhu et al., 2003). This would be even more evident if the innovation directly affects the competition. For instance, many

firms adopted EDI due to demand from customers to improve the efficiency of their inter-organizational transactions. This is amply illustrated by the experience of small firms adopting EDI to satisfy the demands of large firms such as Wal-Mart or GM (Premkumar and Roberts, 1999). As another example, Wal-Mart and Target more recently announced their implementation plan for RFID tags in an effort to streamline their supply chain processes, and began to exert pressure on their suppliers to use RFID tags on the products shipped to the retailers (Son et al., 2005).

Thus, based on previous literature and the arguments presented above, the following is hypothesized:

H3. Environmental characteristic is significantly associated with RFID adoption stage.

H3-1a. There is a positive relationship between environmental uncertainty and intent of RFID adoption.

H3-2b. There is a positive relationship between environmental uncertainty and extent of RFID use.

H3-3a. There is a positive relationship between competitive pressure and intent of RFID adoption.

H3-4b. There is a positive relationship between competitive pressure and extent of RFID use.

Inter-organizational Characteristics

Cooperation can be defined as similar or complementary coordinated actions taken by firms in interdependent relationships to achieve mutual outcomes or singular outcomes with expected reciprocation over time (Anderson and Narus, 1990). Heide and John (1990) empirically demonstrated that a manufacturer takes joint actions to a greater extent with a supplier when the relationship is expected to continue into the future. Bensaou (1997) found that cooperation between automakers and their suppliers is positively

associated with the level of IT used between the trading partners in the Japanese automobile industry.

Trust can be viewed as one party's confidence in the reliability and integrity of a trading partner. Inter-organizational trust can benefit partners within a supply chain by improving communication and cooperation and increasing efficiency and accuracy. Neeley (2006) suggested inter-organizational trust in RFID technology adoption. Lancastre and Lages (2006) found that trust was a significant factor of cooperation determinants in an electronic market context. Thus, based on previous literature and the arguments presented above, the following is hypothesized:

H4. Inter-organizational characteristic is significantly associated with RFID adoption stage.

H4-1a. There is a positive relationship between inter-organizational cooperation and intent of RFID adoption.

H4-2b. There is a positive relationship between inter-organizational cooperation and extent of RFID use.

H4-3a. There is a positive relationship between inter-organizational trust and intent of RFID adoption.

H4-4b. There is a positive relationship between inter-organizational trust and extent of RFID use.

RESEARCH METHODOLOGY

The operation of the remaining research variables was developed especially for this study. In some cases, items were adapted from previously used scales. All perceptual items were measured by seven-point Likert scales representing a range from "strongly disagree" to "strongly agree." Operational definitions of the study instruments are shown in Table 1.

Table 1 Operational Definition of Key Constructs.

Variables	Indicators	Operational definition	Related literature
Perceived benefits	5	Expected benefit from business for organization	Premkumar and Roberts(1999), Son et al.(2005), Sharma(2007)
Perceived costs	4	Expected cost of RFID adoption and implementation	Sharma(2007)
Standardization	4	Level of stable standardization	Sharma(2007)
Top management support	4	Level of top management support and participation	Premkumar and Ramaurthy(1995), Sharma(2007)
IT knowledge capability	4	Level of IT knowledge capability for RFID adoption	Lee and Shim(2007)
Environmental uncertainty	4	The status of not accurately predicting future situations	Agbejule(2005), Son et al.(2005)
Competitive pressure	4	The extent of pressure exerted by the competitive firms	Premkumar and Ramaurthy(1995), Zhu et al.(2003)
Inter-organizational cooperation	4	Level of our firm and partners interaction	Lancastre and Lages(2006), Sanders(2007)
Inter-organizational trust	4	Level of our firm and partners mutual trust	Zaheer and Venkatraman(1995), Son et al.(2005)
Intent to adoption	3	Intent to RFID adoption	Sharman(2007), Son and Benbasat(2007)
Extent to use	4	Level of trading works and use using RFID	Sharma(2007), Chang et al.(2008)

RESULTS AND DATA ANALYSIS

In order to pursue this study, a survey was done from September 27, 2008 until November 10, 2008. The questionnaire was collected by 207 managers and workers from physical distribution and manufacturing companies related to the RFID in South Korea. Of the 207 surveys, 36 which did not fit for the study were discarded and the

remaining 171(adoption stage 101, implementation stage 70) were used for the empirical study. The statistics were analyzed using Excel 2003 and SPSS 12.0.

Table 2 Sample Characteristics.

Classification		Adoption stage	Implementation stage
Industry	Adopter/non-adopter	Non-adopter 101(59.1%)	Adopter 70(40.9%)
	Manufacturing	71(70.3%)	45(64.3%)
	Distribution	25(24.7%)	20(28.6%)
	Other	5(5.0%)	5(7.1%)
	Total	101(100%)	70(100%)
Number of employees	Less than 100	22(21.8%)	5(7.1%)
	101 through 500	26(25.7%)	12(17.1%)
	501 through 1,000	20(19.8%)	20(28.6%)
	1,001 through 3,000	26(25.7%)	16(22.9%)
	More than 3,000	7(7.0%)	17(24.3%)
	Total	101(100%)	70(100%)
Annual sales	Less than US\$100 billion	15(14.8%)	6(8.6%)
	US\$100 through US\$500 billion	8(8.0%)	4(5.7%)
	More than US\$500 billion	78(77.2%)	60(85.7%)
	Total	101(100%)	70(100%)

The characteristics of the sample are shown below in Table 2. There are 101 non-adopters and 70 adopters. In adoption stage, manufacturing industry is composed of 71 companies, which is 70.3% over all. There are 25 distribution companies which takes 24.7% of the industries. In the number of employees, there are 26 companies (25.7%) that have the 101 to 500 employees and 26 (25.7%) companies have 1,001 to 3,000 employees. In annual sales, 78 companies (77.2%) had more than US \$500 billion.

In implementation stage, manufacturing industry is composed of 45 companies, which is 64.3% over all. There are 20 distribution companies which takes 28.6% of the industries. In the number of

employees, there are 20 companies (28.6%) that have the 501 to 1,000 employees and 17 (24.3%) companies have more than 3,000 employees.

Table 3 Results of Validity and Reliability Test.

Variables	Item	Factor loading	Cronbach's α	Variables	Item	Factor loading	Cronbach's α
Perceived benefits	PB1	.848	.903	Competitive pressure	CP1	.841	.867
	PB2	.837			CP2	.792	
	PB3	.800			CP3	.776	
	PB4	.708			CP4	.718	
	PB5	.604					
Perceived costs	PC1	.867	.851	Inter-organizational cooperation	IC1	.839	.894
	PC2	.817			IC2	.807	
	PC3	.804			IC3	.726	
	PC4	.750			IC4	.638	
Standardization	S1	.891	.950	Inter-organizational trust	IT1	.904	.951
	S2	.872			IT2	.872	
	S3	.870			IT3	.855	
	S4	.808			IT4	.798	
Top management support	TM1	.762	.857	Intent to adoption	IA1	.969	.952
	TM2	.743			IA2	.959	
	TM3	.703			IA3	.939	
	TM4	.512					
IT knowledge capability	KC1	.881	.918	Extent to use	EU1	.901	.875
	KC2	.877			EU2	.893	
	KC3	.840			EU3	.840	
	KC4	.668			EU4	.780	
Environmental uncertainty	EU1	.859	.928				
	EU2	.827					
	EU3	.817					
	EU4	.788					

Table 4 Summary of Hypotheses.

Independent variable	Dependent variable	R ²	Beta	t	Sig.	Result
Perceived benefits	Intent of adoption	.326	.413	4.253	.000** *	Supported
Perceived costs			-.123	1.340	.183	Not supported
Standardization			.197	2.231	.028**	Supported
Perceived benefits	Extent of use	.290	.285	2.439	.017**	Supported
Perceived costs			-.020	-.187	.852	Not supported
Standardization			.343	2.931	.005** *	Supported
Top management support	Intent of adoption	.468	.582	7.073	.000** *	Supported
IT knowledge capability			.184	2.242	.027**	Supported
Top management support	Extent of use	.105	.274	2.111	.039**	Supported
IT knowledge capability			.088	.675	.502	Not supported
Environmental uncertainty	Intent of adoption	.389	.205	2.542	.013** *	Supported
Competitive pressure			.551	6.848	.000** *	Supported
Environmental uncertainty	Extent of use	.200	.069	.569	.571	Not supported
Competitive pressure			.412	3.393	.001** *	Supported
Inter-Cooperation	Intent of adoption	.081	.316	2.502	.014**	Supported
Inter-Trust			-.053	-.421	.674	Not supported
Inter-Cooperation	Extent of use	.168	.291	2.413	.019**	Supported
Inter-Trust			.197	1.629	.108	Not supported

Significance level: *: p<0.1 ** : p<0.05 *** : p<0.01

In annual sales, 60 companies (85.7%) had more than US \$500 billion. The measurement mode for the constructs was created and tested using factor analysis and reliability analysis. Results of validity and reliability test are shown in Table 3.

From the primary data (n=171), the regression analysis was examined to test the relationships between technical, organizational, environmental, inter-organizational characteristics and intent of

adoption and extent of use. SPSS 12.0 to analyze the proposed model. Significant results were found. Table 4 shows the results of hypothesis testing. Perceived benefits, standardization, top management support, IT knowledge capability, environmental uncertainty, competitive pressure and inter-organizational cooperation were significantly related to intent of RFID adoption. And perceived benefits, standardization, top management support, competitive pressure and inter-organizational cooperation were significantly related to an extent of RFID use. But perceived costs and inter-organizational trust did not have any significant effect on the intent of RFID adoption and extent of RFID use.

CONCLUSIONS

This study examined the impact of various technological, organizational, environmental, and inter-organizational characters on the adoption and implementation in the context of RFID. Based on research in IT innovation adoption and IOS, research model was developed. The results of the analysis are as follows. First, adoption stage shows that perceived benefits, standardization, environmental uncertainty, competitive pressure, and inter-organizational cooperation have a significant effect on the intent of RFID adoption. Second, implementation stage shows that perceived benefits, standardization, competitive pressure, inter-organizational cooperation have a significant effect on the extent of RFID use.

This study is based on the following proposed managerial implications. First in this study, RFID's not introduced company adoption and the implementation of enterprise-level companies' standardization of both the degree and inter-organizational cooperation have some influence on RFID adoption and implementation. In RFID rather than the important information systems in the internal organization, because it is an inter-

organizational information system, if it is not standardized then business to business transactions won't be accomplished smoothly. Therefore, RFID is cooperation between organizations and in order to perform these tasks standardization efforts will continue. Second, those un-introduced RFID companies' adoption stages are environmental characteristics or environmental uncertainty and competitive pressures so there was intent to increase the introduction of RFID. Because information technology environment is very uncertain and competitive there is a need to recognize innovative information technology such as RFID and to introduce it more positively. And in a very rapidly changing environment of the company's adoption stage, RFID's corporate survival and competitive pressure is to be introduced as a new innovation called "RFID". Therefore, RFID skill developers and RFID consultants should introduce to companies the importance of environmental factors.

Limitations and future research issues can be summarized as follows. First, it is difficult to say that the sample is enough to be the representative of the population. Second, because the sample of this study was mostly of manufacturers, it may be limited if you to analyze the difference between other industries. Third, the research has insufficient organizational resources, the many researches are necessarily about organizational resources in RFID study. Future studies using performance research are also needed to help understand organizational level RFID adoption and better implementation.

REFERENCES

- Agbejule, A., The Relationship between Management Accounting Systems and Perceived Environmental Uncertainty on Managerial Performance: A Research Note, *Accounting and Business Research*, 35(4), 2005, 295-305.

- Anderson, J.C. and Narus, J.A., A Model of the Distributor-
Manufacturer Working Relationships, *Journal of Marketing*, 54(1),
1990, 42-58.
- Bensaou, M., Inter-organizational Cooperation: The Role of
Information Technology: An Empirical Comparison of U.S. and
Japanese Supplier Relations, *Information Systems Research*, 8(2),
1997, 107-124.
- Brown, I. and Russell, J., Radio Frequency Identification Technology:
An Exploratory Study on Adoption in the South African Retail
Sector, *International Journal of Information Management*, 27(4),
2007, 250-265.
- Chang, M.K., Cheung, W., Cheng, C.H. and Yeung, J.H.Y.,
Understanding ERP System Adoption from the User's Perspective,
International Journal of Production Economics, 113(2), 2008, 928-
942.
- Chwelos, P., Benbasat, I. and Dexter, A.S., Empirical Test of an
Electronic Data Interchange Adoption Model, *Information
Systems Research*, 12(3), 2001, 304-321.
- Damanpour, F., Organizational Innovation: A Meta-Analysis of Effects
of Determinants and Moderators, *Academy of Management
Journal*, 34(3), 1991, 555-590.
- Grover, V. and Goslar, M.D., The Initiation, Adoption, and
Implementation of Telecommunications Technologies in U.S.
Organizations, *Journal of Management Information Systems*,
10(1), 1993, 141-163.
- Heide, J.B. and John, G., Alliances in Industrial Purchasing: The
Determinants of Joint Action in Buyer-Supplier Relationships,
Journal of Marketing Research, 27(1), 1990, 24-36.
- Iacovou, C.L., Benbasat, I. and Dexter, A.S., Electronic Data
Interchange and Small Organization Adoption and Impact of
Technology, *MIS Quarterly*, 19(4), 1995, 465-485.

- Kern, C., Radio-Frequency-Identification for Security and Media Circulation in Libraries, *The Electronic Library*, 22(4), 2004, 317-324.
- Kim, S.H., An Empirical Study of Factors Influencing Organizational Intention to Use RFID Technology and the Moderating Effect of Presence of Champions, *Journal of Business Research*, 23(3), 2008, 139-171.
- Lai, V.S. and Guynes, J.L., A Model of ISDN (Integrated Services Digital Network) Adoption in U.S. Corporations, *Information & Management*, 26(2), 1994, 75-84.
- Lancastre, A. and Lages, L.F., The Relationship between Buyer and a B2B e-Marketplace: Cooperation Determinants in an Electronic Market Context, *Industrial Marketing Management*, 35(6), 2006, 774-789.
- Lee, C.P. and Shim, J.P., An Exploratory Study of Radio Frequency Identification (RFID) Adoption in the Healthcare Industry, *European Journal of Information Systems*, 16(6), 2007, 712-724.
- Mehrtens, J., Cragg, P.G. and Mills, A.M., A Model of Internet Adoption by SMEs, *Information & Management*, 39(3), 2001, 165-176.
- Neeley, C.K.R., *Connective Technology Adoption in the Supply Chain: The Role of Organizational, Inter-organizational and Technology-Related Factors*, Ph. D. Dissertation, University of North Texas., 2006.
- Premkumar, G. and Ramamurthy, K., The Role of Inter-organizational and Organizational Factors on the Decision Mode for Adoption Inter-organizational Systems, *Decision Science*, 26(3), 1995, 303-336.
- Premkumar, G. and Roberts, N., Adoption of New Information Technologies in Rural Small Business, *Omega*, 27(4), 1999, 467-484.

- Premkumar, G., Ranamurthy, K. and Crum, M., Determinants of EDI Adoption in the Transportation Industry, *European Journal of Information Systems*, 6(2), 1997, 107-121.
- Roberts, C.M., Radio Frequency Identification (RFID), *Computers & Security*, 25(1), 2006, 18-26.
- Sharma, A., *Strategic, Institutional and Radicalness Factors in the Evaluation, Adoption and Early Integration of RFID: An Empirical Investigation of Current and Future Adopters*, Ph. D. Dissertation, Emory University, 2007.
- Smith, A. D., Exploring Radio Frequency Identification Technology and Its Impact on Business Systems, *Information Management & Computer Security*, 13(1), 2005, 16-28.
- Son, J.Y., Narasimhan, S. and Riggins, F.J., Effects of Relational Factors and Channel Climate on EDI Usage in the Customer-Supplier Relationship, *Journal of Management Information Systems*, 22(1), 2005, 321-353.
- Tornatzky, L.G. and Fleischer, M., *The Processes of Technological Innovation*, Lexington Books, Lexington, MA, 1990.
- Zaheer, A. and Venkatraman, N., Relational Governance as an Inter-organizational Strategy: An Empirical Test of the Role of Trust in Economic Chang, *Strategic Management Journal*, 16(5), 1995, 373-392.
- Zhu, K., Kraemer, K. and Xu, S., Electronic Business Adoption by European Firms: A Cross-Country Assessment of the Facilitators and Inhibitors, *European Journal of Information Systems*, 12(4), 2003, 251-268.

Business Leader's Behaviors in the Case of Retirement and Successor's Acceptance: A Men/Woman Comparative Case Study

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ABSTRACT

The problematic issue of successor's acceptance in a family business has not yet reached researchers' attention. This comparative case study put the emphasis on how men/women predecessors will bring their business people toward successors' acceptance. The results reveal that, when predecessors put their confidence into themselves, they will adopt, in turn, different behavioral strategies than their own. In doing so, the successor's acceptance process by company personnel differs depending on the predecessor's gender. This study shows the importance to take into account the predecessor's gender in future

studies on family succession of small and medium sized enterprises (SMEs).

Keywords: Behavioral Strategies, Family Business, Small and Medium Sized Enterprises (SME)

INTRODUCTION

Family businesses seem to be very important in the economic, social, and cultural development of nations (Aronoff and Ward, 1994; Astrachan and Shanker, 2003; Deloitte and Touche, 1999). On the other hand, there is actually a great concern for those business owners, whether in Quebec, Canada, United States, or other industrialized countries. Indeed, near from 50% of the business owners are over fifty and they are facing the dynamic of transferring their businesses to their successors (Allouche and Amann, 2000; Cadieux, 2004; FFI, 2003; Richer, St-Cyr and Youssef, 2004; Sharma, 2004). For example, according to recent studies by Bruce and Picard (2005, 2006) on Canadian business leaders, 41% of them will transfer their businesses in the next five years and 71% in the next ten years, but only 35% said that they have a selling or transferring plan.

However, most researchers agree that succession is a long and complex process where success is mainly based on several factors, among others, on the predecessor's willingness to withdraw (Brown and Coverley, 1999; Lansberg and Astrachan, 1994) or to be disengaged (Cadieux, Lorrain and Hugron, 2002) the predecessor's ability to keep good relations with the successor (Davis and Harveston, 1998; Fiegenger, Brown, Prince and File, 1996; Lambrecht, 2005; Morris and al., 1997; Seymour, 1993; Vera and Dean, 2005; Ward, 1987), or the way such that the predecessor will bring his/her successor to be accepted as future leader by the human resources within the

enterprise, particularly by the management team members (Barach, Ganitsky, Carson and Doochin, 1988; Bayad and Barbot, 2002).

Despite of all that has been accomplished on the problematic succession of family business during the last three decades, only few researchers have been interested in the singularity of this succession process when the predecessor is a woman (Cadieux and Lorrain, 2002; Cole, 1997; Sharma, 2004). According to Industry Canada and Canadian Statistics reported by Richer and St-Cyr (2007), more than 40% of the family business leaders who encountered succession problems are women. In addition, since the study conducted by Hisrich and Brush (1984) until those carried out by Buttner (2001), the overall work done within the field of women's entrepreneurship on women's leading mode shows that the women entrepreneurs' behaviors toward their employees and business associates differ from their men counterparts. On the basis of these findings, we can formulate the following research question: What is the difference between women and men predecessors in their acceptance of the successors' organizational skills? The objective of this study is to understand and describe how family business leaders, whether they are women or men, will bring the employees to accept their successors when they retire.

Theoretical Context

There is a lack of scientific works examining the process of successors' social integration. The following subsection discusses about this succession process on the basis of the understanding of the few researchers who have studied it until now.

Family Business Succession

The leadership or property transfer is often part of the family business succession process (Hugron, 1992). The leadership transfer is defined as a dynamic process during which the predecessor's roles and functions and his/her successor (a member of the family) evolve in an

overlapping way (Handler, 1990) in order to transfer to the successor management and life philosophy, responsibilities, attitudes, authority, power, and leadership (Cabrera-Suárez, 2005; Hugron, 1992; Lajeunesse, 1989; Longenecker and Schoen, 1978). In general, the process of leadership transfer, presented in the form of model, takes into account four distinct phases. In the initiation phase, the predecessor initiates his/her successor to the day-to-day business leadership in developing his/her interest. This initiation phase goes to the integration phase where the successor, chosen not only for his/her competences and interest (Haddadj and Andria, 2001) but also for his/her confidence and especially for the quality of the relationship between him/her and the other actors within the organization, (Barach and al., 1988; Dumas, 1992; Lansberg and Astrachan, 1994; Morris and al., 1997), introduces himself/herself more officially into the enterprise, gets familiarized, and works with the predecessor and the employees (Churchill and Hatten, 1987; Hugron, 1993; Lajeunesse, 1989). In the phase of joint leadership, the successor proves his/her competence by taking some specific roles while working with the predecessor (Cadieux, 2004) who is transferring to him/her the philosophy of life and management, the responsibilities, and the power (Hugron, 1993; Lajeunesse, 1989) until there is a complete withdrawal at the disengagement phase (Cadieux, 2004). However, to lead the business in an autonomous way, it is important that the successor be accepted by the organization's members (Barach and al., 1988).

Successor's Acceptance

First, it is to be noted that the successor's acceptance concept did not particularly attract researchers' attention. The few interested authors rather treated this notion of productivity appreciation, self-acceptance, without looking sufficiently on the acceptance of a new person by their peers. For example, based on the studies of Beer (1981) and Hartenian (1991), Poudrier (2000) defines acceptance as

congruence between the organizational objectives and those of the person evaluated. For Longenecker and Nykodym (1996), studying the concept in a context of supervision, the collaborator's acceptance increases when the supervisor and the collaborator have a common perception and understanding of the objectives. Murphy and Cleveland (1995), as far as they are concerned, mention that the agreement on tasks accomplishment and common perception of the performance standards are two essential factors of the acceptance process.

In the context of the family businesses, the important studies which elaborate on the concept of successor's acceptance are those of Sathe (1985) and Barach and al. (1988). According to Sathe (1985), the success of managerial transfer is determined by the level of successor's acceptance. This acceptance would occur when the company's members perceive the successor's beliefs, values, and behaviors as compatible and conform to the organizational culture. For Barach and al. (1988), before the predecessor retires from the organization, he/she must be assured of the successfulness of his/her successor's acceptance. Thus the predecessor should make such that the successor adheres to the organizational culture of the family business and develops the necessary competences to play effectively his/her role as organizational leader in order to satisfy the expectations of the organization's members and to gain their confidence and their respect (Barach and al., 1988; Bayad and Barbot, 2002; Mouline, 2000; Sathe, 1985). Unfortunately, these few scientific researchers emphasizing the importance of predecessor's implication in the process of successor's acceptance and the congruence of the values and behaviors, are talking very few about the behavioral strategies adopted by the predecessor to legitimate the managerial transfer.

The Relational Behavior of Women Business Leaders

There is a lack of research on managerial behaviors and the direction of women as predecessors, but the literature on women's

entrepreneurship sheds some light on the characteristics of their behavioral strategies related to leadership. Several studies on women's entrepreneurship examine their managerial behaviors. The results of these studies show certain specificities regarding the behavioral mode of men and women entrepreneurs (Belcourt, Burke and Lee-Gosselin (1991); Brush, 1992; GCEF, 2000; CWBR, 1999; Lavoie, 1988; National Foundation for Women Owners Business, 2004; Proulx, 1995; Putnam, 1993; Robinson, 2001). First, unlike men, women prefer personal contact to the detriment of a greater formalization, which implies growth. Second, women are more interested than men in the social dimension of the work and to pursue economic objectives whereas men prefer entrepreneurship and supervision role rather than collaboration. Third, women adopt a participative management style, which aims at integrating work and family. Overall, women entrepreneur is viewing the business world as a system of interrelationships rather than a structure divided in two distinct entities: economic and social spheres, which do not meet (Brush, 1992). From the women point of view, business matters are an integral part of all their activities (Brush, 1992; Buttner, 2001; Putnam, 1993).

A case study by Buttner (2001) based on the relational theory developed by Miller (1986), Jordan, Kaplan, Miller, Stiver and Surrey (1991), and Fletcher (1998), particularly when considering women entrepreneurs' behavioral style, reveals that these women use a relational approach when working with employees and customers. Relational theory stipulates that women have a sense of connection allowing a more personal relationship with employees and customers (Brown and Gilligan, 1992; Miller, 1991) putting an emphasis on individual growth and development which are favored in a context of relationship where there are interactions. The interaction dimensions are protection, mutual skills, self-achievement, and teamwork creation. Concerning protection, the supportive women contacts help or assist. By mutual skills, the women enable the employees to achieve and

contribute to the realization of the business activities. The dimension of self-achievement refers to the use of relational skills to improve her professional growth and work effectiveness. Team creation is the basic condition to which group life can evolve. However, relational theory does not involve all women nor stipulate that only women subscribe to it (Buttner, 2001). From a relational point of view, these competences make this theory a framework to clearly express the behavior of women business leaders because one cannot talk about an organization without addressing these fundamental characteristics: the relationship and trust with others, as well as the skillfulness to take care of others and contribute to their well-being (Buttner, 2001; Chaganti, 1986; Hirisch and Brush, 1984; Robinson, 2001). In accordance with these authors, Rosener (1994), quoting the concept defined by Burns (1978) and developed by Bass (1985), claims that compared to men, it is easier for women to adopt a transformational leadership style which leads to a more globally transformation or integration of the collaborators' personal objectives and interests.

Moreover, the study conducted by Riebe (2005), supported by the studies carried out by Buttner (2001, 2002), Eagly, Johannesen-Schmidt and van Engen (2003), Eagly and Carli (2003), Eagly and Johannesen-Schmidt (2001), Fletcher (1998), Gilligan (1986), Hegelsen (1995), and McClelland (1979), which is related to 27 successful business leaders, shows that to succeed these interviewed women entrepreneurs adopted behaviors to motivate and retain employees, established a friendly family relation with the employees, suppressed the hierarchy, and emphasized interdependence, collegiality, and empowerment. Finally, some researchers noted a difference between leadership styles (Bass, 1991), others concluded that gender does not influence leadership styles, but these results are questioned (see Bass, 1990; Cole, 1997; Davidson and Cooper, 1987; Powell, 1990; Vikinas and Cartan, 1993; Van Engen, van der Leeden and Willemsen, 2001; Vecchio, 2002, 2003).

Research Objective

As Salganicoff (1990) mentioned in his study, this feminine approach seems more appropriate for the family business management because people with these characteristics are more apt to deal with the business and family well-being. Furthermore, the capacity of women to connect with others and their propensity to favor the development of their employees will lead the predecessor to support the successor's acceptance. In short, even if the literature on family business does not clearly indicate the behavioral strategies adopted by the predecessor to support the successor's acceptance by its employees and even less the differentiation of strategies by gender, it remains that the research conducted on women's entrepreneurship predicts that women and men predecessors adopt different behaviors in this regard.

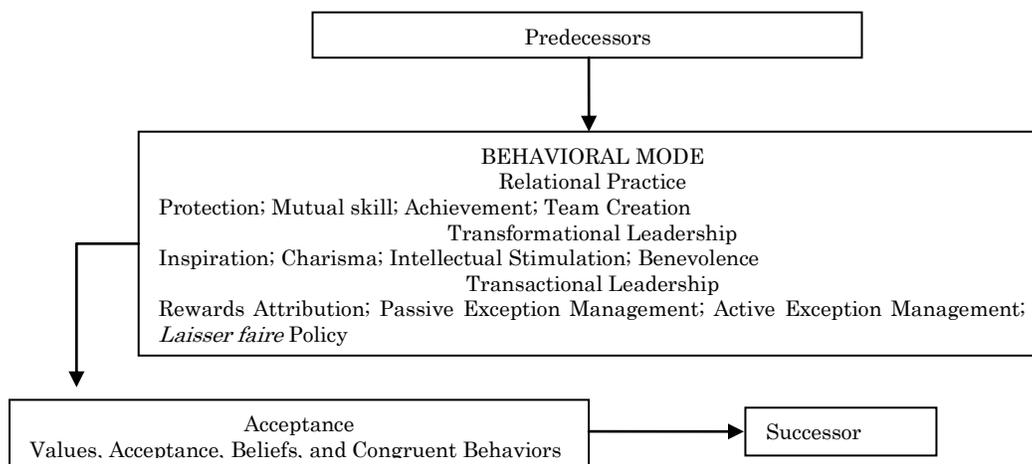


Figure 1. The relation between the predecessor's behaviors and the successor's acceptance by the business members

As postulated in the theoretical model (see figure 1) below, the men/women predecessors in our study adopt a behavioral model centered on relational practices (Buttner, 2001) and transformational and transactional leadership (Bass and Avolio, 1994) to gain their successors' acceptance by the business members. Inversely, which model will be used by both? We will attempt to answer this question in which follows.

METHODOLOGY

Sample

In order to understand the leadership behaviors adopted by men/women predecessors to gain their successors' acceptance by the business members, we designed a methodology described as follows. The exploratory and multi-sites case study strategy (Hlady-Rispal, 2002) has been used since the phenomenon belonging to new problems for which few empirical studies were done (Grenier and Josserand, 1999) can exist only in the context in which it evolves (Yin, 1994). We choose the theoretical sampling procedure given the scarcity of women business leaders in managerial transfer. The following criteria were examined: succession process from the first to the second generation began and possibly completed; succession mother/father-daughter or mother/father-son; manufacturing or sales service sector of 10 to 250 employees; the employee selected must have worked in the enterprise with the owner manager either before or while the successor entered in the business. A total of 110 companies led by women and 44 led by men were selected in Quebec.

A first series of calls and verifications using the Internet made it possible to eliminate 89 women and 29 men. Of the 21 women and the 15 men contacted, according to the criteria, seven companies (four women predecessors and three men predecessors) in the process of first generational transfer when at least one family member has the control

on the property and management (Cadieux, 2004) were retained. Two women predecessors have already transferred the business to their successors. The five others, affirming their intention to transfer the business, are at an advanced stage of the process. The number of interviews performed, the SME feminine and masculine profiles in taking into account the foundation date, the sector of activities (two manufacturing and four services), the number of employees (from 15 to 150), the successors' gender (three women successors and four men successors), the turnover (from two to seven millions), the transfer condition, and the percentage of actions held are presented in tables 1 and 2.

Table 1 Profile of Women Business Leaders

Women predecessor	Nature	Montage	Terroir	Binette
Foundation date	1987	1988	1991	1986
Sector of activities	Services	Services	Manufacturer	Services
Number of employees	59	50 to 150	32	26
Successors	Daughters	Sons	Sons	Sons
Turnover	3 to 4 millions	2 to 3 millions	3 millions	6 to 7 millions
State of transfer	Finished	Joint partnership	Finished	In process
Actions	Pred.: 0% Succ.: 33% Other shareholders with option of repurchase: 66%	Pred.: 33% Succ.: 0% Other shareholders with option of repurchase: 66%	Pred.: 52% Succ.: 48%	Pred.: 50% Succ.: Son: 25% Daughter: 25%
Number of interviews	3	4	4	4

Table 2 Profile of Men Business Leaders

Men predecessor	Cérami	Sanite	Jetpur
Foundation date	1975	1980	1999
Sector of activities	Retail business	Services	Manufacturer
Number of employees	15	20	46
Successors	Daughters	Sons	Daughters
Turnover	2 millions	6 millions	5 millions
State of transfer	Nearly finished	In process	In process
Actions	Pred.: 100%	Pred.: 100%	Pred.: 63%; Succ.: 6% Three other employees: 31%
Number of interviews	4	4	4

DATA COLLECTION

The data collection was performed from February 2004 to April 2006. Data were collected using 27 semi-structured interviews which averaged an hour and a half in time duration. The three guides used to conduct the interviews were structured according to the following elements: enterprise presentation, succession process, competences transfer process, leadership behaviors, and successor's acceptance. These interviews took place with seven predecessors, seven successors, and 13 employees in order to triangulate the data.

After having explained the research objectives to the participants and obtained their agreement to record the interviews, the 27 individual interviews were recorded and transcribed for a first analysis allowing us to bring the necessary adjustments during the subsequent interviews. Then seven cases of enterprises were recorded. The sequential thematic technique (Paille and

Mucchielli, 2003) was privileged to analyze the interviews using QSR NVivo software (version 2.0). First, its flexibility allowed us not only to redefine and organize hierarchically the various topics of the conceptual framework related to the succession process (Hugron, 1992; Lajeunesse, 1989), the dimensions of the relational theory (Buttner, 2001), the transformational and transactional leadership (Bass and Avolio, 1994) and the acceptance (Barach and al., 1988), but also to add emergent themes during the analysis. We needed to proceed to the corpus de-contextualization and re-contextualization (Paille and Mucchielli, 2003) in rebuilding a new structure with the coded themes, which we used to support the final results. Regarding the themes validation, it was based on their recurrence, their consistency, and their importance for the respondents. To satisfy the data corroboration requirement (Yin, 1994), we compared the various points of view expressed by the respondents on the same subject.

RESULTS

How do men/women business leaders, who decide at the end of their careers to retire and to yield their business to their successors, getting their successors accepted within the enterprise they have created? To answer this question, we need to look at the pragmatic analysis of the respondents' discussions which will determine the suitable factors for the characterization of leadership behaviors for the successor's acceptance, whether the predecessor is a woman or a man. These behaviors, in the form of leadership strategies, will be compared to the dimensions of acceptance.

Inter-case analysis: women predecessor behaviors

Although the women predecessor journey and history differ in their business creation and management, when it comes to bring the successor to gain acceptance, there are many similarities at the behavioral level. Even if some dimensions that we cannot find in the literature have emerged during the analysis, bringing an important contribution to the theoretical level (confidence, "maternalist" leadership, and collaborative work), the other behaviors are similar to feminist practices known as relational (Buttner, 2001; Fletcher, 1998) and the

dimensions of the transformational leadership (Bass and Avolio, 1994). These behaviors regrouped in categories for the final analysis are protection and mutual skill. They are presented and defined in table 3.

Protection

All the interviewed respondents' statements indicated to us that the four women predecessors understood that to adopt protectionist behaviors (Buttner, 2001) while exercising their functions with their successors allowed to the latter to do less errors and to be more easily accepted. Thus, in the transfer process of the philosophy of life, the philosophy of management and responsibilities (Hugron, 1987), all four women predecessors created occasions, even successors can agreed, to consolidate their confidence. They protected them from any resistance, insecurity, adversities, and possible damage coming from the other company members.

Table 3 Business women leaders – acceptance behaviors

Protection	Scan the environment in order to determine useful information for acceptance; protect from adversities and damages to which the successor would be exposed; protect from personal and financial insecurity; support
Capability skill	Encourage the successors to academic formation; internally form and test: mentorship and friendship; rely on consultants; use their expertise; develop the capacity to be an expert and learner; initiate special projects; develop employees
Confidence	Trust mutually; build self-confidence; express pride; build internal and external successor's visibility; show and gain respect; posit successors and accept mistakes
"Maternalist" leadership	Show empathy; show kindness; express tact and gentleness; link rational and emotional
Collaborative work	Practice collaboration, interdependence, and communication

They scanned the environment to determine useful information for the successors and support them in the daily tasks. Moreover, according to their

statements, the determining factor for acceptance is that almost all predecessors proceeded in preparing with care and in a non-casual way the employees for the successors' installation: "*At the beginning, she protected me much against the partner and employees (E3W-Int-Succ, 61¹). Then it was performed kindly. [...] I then protected them (E4W-Int-Pred, 56²). You give more chance to your children. You protect them more (E3W-Int-Empl-A, 157³)*".

Capability Skill

Successors were trained by women predecessors in order to achieve the objectives related to their responsibilities. They put the emphasis on their internal formation, especially making sure about the contribution of professionals or consultants practicing a primary teaching based on empathy enabling them to be challenged in their capacity of experts and learners. "*I integrated it quietly, I presented her to my suppliers and to everyone and I saw how [...] they accepted her (E1W-Int-Pred, 62). Therefore, since the purchase, we began to establish the HACCP standards [...] and I was mandated to do everything into the factory with the assistance of a consultant [...]. It is good for the successor's acceptance (E3W-Int-Succ, 24)*".

Confidence

Almost all respondents indicated that women predecessors showed a great confidence in their successors in leaving their place to them and in respecting them; a mutual trust, in fact. Women predecessors contributed especially to build their successors' internal and external visibility, and to clearly express their tolerance to error. Not only P1 often asked assistance to her daughter, promoted her within the enterprise as well as to the suppliers and associations, but also and more especially P2 said to us that she is always supported by the

¹ Third company of business women leaders, interview of successor, discourse number 61.

² Fourth company of business women leaders, interview of predecessor, discourse number 56.

³ Third company of business women leaders, interview of employee A, discourse number 157.

knowledge of her children, collaborators, and friends for her personal growth and effectiveness. This way of doing reinforces self-esteem and confidence while making it possible for the successor to gain acceptance. “[...] *Even if errors are made, it is not serious, [...] because if we do not have the owner's confidence, that does not mean that the others will put their trust in you* (E4W-Int-Succ, 71). *She trusted him much. [...] and she consulted him much and respected him [...]. It takes much effort to invite the employees to accept somebody* (E2W-Int-Empl-A, 101)”.

“Maternalist” Leadership

Almost all respondents mentioned that women predecessors adopted a “maternalist” leadership style. P1, P2, and P3 offered assistance in supporting their successors to evaluate their emotion regarding their position, leading them to adopt better solutions (Buttner, 2001; Fletcher, 1998), as stated by an employee: *“Because Mrs Guimond is more humanitarian, more mother, she knows how to present her son to us so that we will accept him well* (E2W-Int-Empl-A, 47)”.

Collaborative Work

Collaborative work is an integral part of the business fundamental values of P1, P2, and P4. According to one successor, the predecessors recognize the importance to stress their successors’ collaboration and cohesion with the employees in an interdependent manner which would facilitate successors’ acceptance: *“They like the spirit of family which exists and also the possibility for them to speak with us anytime knowing that they will be listened [...]. It will facilitate acceptance* (E3W-Int-Succ, 83)”.

Determinant Factors of Successor's Acceptance According to Business Women Leaders

In order that the successor succeed in making his/her business entry, it is essential that the organization's members accept and agree to work with the successor. According to the intra-case analysis of business women leaders, there is successor's acceptance when: a) women predecessors positioned their successors so that they can easily climb up the ladder, while acquiring know-how and experience internally; b) successor's values and behaviors are compatible with the business (there is successor's engagement); and c) the successor gains as much confidence and respect from women predecessors as other business members.

According to the employees, the most important factor for successor's acceptance is the predecessor's positioning aspect which allows the successor to easily climb the ladder without shock. P1W, P2W, and P4W gently pass the word to convince the employees to approach the successors concerning tasks. Almost all successors followed a similar progression which is characterized by the successor's entry in the basic functions of the business. He/she familiarized himself/herself with each department, therefore with the employees, while starting at the bottom of the ladder and fulfilling precise tasks to gradually reach the highest levels before joint-leadership: "*She obtained all levels according to SPA standard and she made herself known. I gently pass the word* (E1W-Int-Pred, 24). [...] *She has not radically imposed Ignace.*

It was done gradually and then better accepted (E2W-Int-Empl-A, 29)". Moreover, during the acceptance process, the successors involved in the company as early as their childhood had to learn, as much from their mother as from the employees, the structures, values, beliefs, and vision of the business, as well as to adopt behaviors expected by the business members (Barach and al., 1988). According to the respondents, [...] "*What she did is that she was always returning at the fundamental values and objectives pursued* (E3W-Int-Succ, 61).

Fidel has the same values as the business, which is favouring acceptance (E3W-Int-Empl-A, 109)”.

Inter-case Analysis: Predecessors’ Behaviors

As shown in table 4, the discourse analysis of the companies’ respondents led by the predecessors indicates that men present themselves as models to follow, while inspiring the successors in leading them to show their ability, in empowering them, and in holding meetings with them.

Capability Skill

Proceeding in the same way than women, the predecessors saw all the importance for successors to acquire knowledge by internal and external formation, and by internal experiences in carrying out special projects. This is why S2M⁴ obtained a Baccalaureate of Business Administration and S3M got a Master in Operational Research. We can see that the academic profile of these children facilitated the transfer of know-how and, in some way, the transfer of how to manage. To concretize these transfers on the technical point of view, women preferred the contribution of consultants while their men counterpart privileged a more concrete process which includes a pedagogical approach by which the successor is learning in observing how the mentor, who can be the predecessor, and the coaches, most of the time the predecessor’s collaborators, act. This way of doing largely facilitated acceptance: “*Caroline had two coaches. She had her father, founder of several businesses, and actually one of the business leaders. And she had the control on the administrator side. [...] For others, this gives acceptance (E3M-Int-Pred, 81)”*. The predecessors prefer friendship given that the internal formation is provided by other

⁴ Successor of the second company of business men leaders

employees. Here is an example. As for S2M and S3M: *“I coached a few in various tasks (E2M-Int-Empl-B, 88)”*.

Table 4 General View of Men Business Leaders’ Behaviors

Capability skill	Acquire knowledge by academic formation and external and internal formation; put the emphasis on mentorship; internal formation and experiment, specifically at the levels of know-how and direction; put the emphasis on friendship; internal formation and experiment, specifically at the level of know-how; initiate special projects
Inspiration	Transmit the enterprise’s vision, to be a model
Reliability	Show interest and investment; make evidence related to work; show initiative
Work	Initiate predecessors and successors meetings in order to have constructive discussions; initiate management meetings to examine current problems; examine miscommunication (at the exception of Jetpur)

Inspiration

The predecessors are perceived not only as a source of inspiration for their successors regarding the business vision, but also as models to follow, which has facilitated acceptance. Here are some examples of what successors say about this: *“My father communicated to me his ability of doing good work, even if I do not like his way of being harsh with us. I must imitate him (E1M-Int-Succ, 28). Andy and I have the same business vision which makes it easier to follow, so there is no other model (E2M-Int-Succ, 106). [...] He is the model (E3M-Int-Empl-B, 198)”*.

Reliability

Almost all business leaders required from their successors to cross some steps, while showing their level of interest, involvement, and initiative. These steps which demonstrate that the successors have the ability to accomplish the required tasks would be viewed as proofs or initiation rites that they must realize and cross successfully. It is what the respondents think: *“And I think that I had proven myself reliable and that he could trust me when he was gone, and it is good for acceptance (E1M-Int-Succ, 19)”*. It also happens that S1W and S3W often work in the weekend and sometimes very late in the night to complete some important tasks in order to prove to others their interest and involvement in the business.

Work

It is often performed in a way such that the predecessors and the successors meet to discuss about the objectives, the procedure to follow, and the difficulties encountered.

Determining Factors of the Successor’s acceptance by the Men Business Leaders

The three predecessors organized themselves so that their successors can be accepted by gently introducing them so that they can climb the ladder, while taking care that they prove themselves, that their values, beliefs, and behaviors are compatible with those of the enterprise, that they gain confidence and respect of the employees, and especially that they show interest, initiative, and involvement.

First, acceptance depends on how successors climbed the ladder. Unanimously, the respondents recognized that it was necessary to proceed to the successor’s introduction slowly, using patience, and without dropping steps; in other words, to climb the ladder slowly so that the employees can adapt themselves to the change. In the case of men particularly, successors needed to climb the ladder not at any

price, but by proving their reliability and by showing clearly their interest, initiative, and involvement. For P1M⁵, it is necessary that S1M initially washes the floors to be accepted: “[...] *But, Monique is more docile. To be accepted, I told her that she must wash the floors in front of the employees, to start at the bottom. I did it myself. It is necessary to work hard to prove yourself strong to them (E1M-Int-Pred, 320⁶)*”. Sharing the same vision than P1M, P2M and P3M made all the necessary so that S2M and S3M do not drop steps, share the same conviction than the predecessors in order to be accepted by them, and then to be accepted by the employees: “[...] *that was done naturally. For the father, she needs to prove her involvement, but there is still a long way to go (E2M-Int-Empl-B, 184)*”. A Jetpur’s employee says about this: “*Firstly Caroline needs to be integrated slowly but surely, but she has to prove what she is capable to do [...] we accepted her as she is (E3M-Int-Empl-B, 63)*”. Second, we noted that the successors’ values and behaviors must be in conformity with those of the business members in order to gain confidence and respect, and then to be accepted. According to S2M: “*He educated her well, he communicated her good values, so I do not have any problem with this (E3M-Int-Empl-B, 65)*”. “*She pulls up her sleeves and she is not afraid to soil her hands. In my view, she is an owner of a good value. And it is easy for us to work with her (E1M-Int-Empl-A, 147)*”.

DISCUSSION AND CONCLUSION

In this study we used the relational framework developed by Buttner (2001) to understand the predecessors’ behaviors toward the successors’ acceptance. We think that this model non-exclusive to women can serve as framework for the study of the men/women

⁵ Prédecesor of the first company of business men leaders

⁶ First company of business men leaders, interview of predecessor, discourse number 320.

entrepreneur behavior and of some works by Bass and Avolio (1994) related to the transformational and transactional leadership. We noted that, even if Buttner (2001) argues that this relational model at four fundamental dimensions is perfectly adapted for the studies on women entrepreneur, our findings clearly indicate an improvement of the Buttner's model since other dimensions emerged during the data analysis of our study. Moreover, it is important to mention that these same dimensions, supposedly adaptable - since according to Buttner (2001) the relational framework is not only applicable to women - do not apply to all men cases and that it is preferable in the future to dissociate the leadership behavior of women from those of men. This observation is also applicable to the transformational leadership dimension (Bass and Avolio, 1994).

One of the major theoretical contributions of our study refers to how the sample of women proceeded in the successor's acceptance process. It clearly emerged that women provided the successors with the ability to lead in an atmosphere of confidence whereas the predecessors especially stressed the need to prove their ability before confidence. These results lead to conclude that there is a fundamental difference between the way to proceed of men and those of women. For men, the process seems to take more time given our results indicate that the predecessors who have in general more difficulty in trusting their successors, man or woman, have tendency, as mentioned by Lajeunesse (1989), to test their competences in putting them under conditions to prove their ability to themselves first and then to the employees. In other words, the predecessors seem to adopt a management style of the type lead-evaluate-recognize. It is only when confidence is established that the men predecessor can accept the man/woman successor, allowing then to the employees to do so. Besides, the study conducted by Lorrain., Powers and Koffi (2005) points out the difficulties of men predecessors to trust. When met by the researchers, the successors denounced the lack of confidence on the

part of their fathers. This lack of confidence encourages the successors to do not express this propensity to protect their offspring, propensity which we detected in women. So, at least in our research, a new fundamental element has emerged distinguishing women from men in the acceptance process, that is, confidence. Indeed, according to some authors who worked on the concept of non-entrepreneurial organizations, the confidence, considered as the primary element of the collaboration established by the organizational leader, is the key to success (Herzog, 2001; Katzenbach and Smith, 1994; Tarricone and Luca, 2002). Moreover, according to the study performed by Cadieux et al. (2002) on the family business succession led by women, it seems that the relationship mother entrepreneur-children would be usually different than those father entrepreneur-children. Mothers would know better their children, their abilities, as well as their potential. According to some authors (Cadieux and al., 2002; Dumas, 1992; Salganicoff, 1990), in general, children's education is the mothers' responsibility rather than those of the fathers. There is less doubt that they can make confidence into them without asking so many questions. Contrary to the men, the women adopt what we call a "maternalist" leadership style which is specific to the women in our study and near from the benevolence dimension (transformational leadership; Bass and Avolio, 1994) that the relational framework is not clearly taking into account.

The results indicate that, in general, women predecessors have some assets allowing a leadership style centered on interpersonal relations and their successors' development and supportive people favoring offspring's acceptance which indirectly lead to a successful managerial transfer. Among some women predecessors, it seems to exist a model known as feminine (Eagly and Johnson, 1990; Eagly and al., 1992; Eagly and al., 2003) which derives from a feminine style known as relational, collaborative and interactive, and which is proposed by the relational (Buttner, 2001; Fletcher, 1998; Miller, 1991)

and transformational (Bass and Avolio, 1994) framework making it possible for the woman predecessor to bring her successor to gain acceptance of others. The ability to protect is favoring the successor's acceptance by examining the environment, an in-depth analysis to determine important information and realization of activities intended to protect from damages and to support his growth. The capability strategies incite the women predecessors to enable successors using mentorship and inspiration. Building successors' confidence and charisma, and stressing the respect also contributed to acceptance success. Furthermore, the predecessors also deployed strategies related to the collaborative work, while remembering that all occurred within a framework called "maternalist" leadership. Inspired by the past studies examined, we think that the findings of the present study can bring some responses to our research question. So the challenge to get more sustained responses will lead us toward a procedure allowing to identify and to characterize, in the form of model, a set of acceptance strategies which women involved in a transfer process will use to better ensure the continuity of their businesses. Once finished, the new model developed will benefit as much as to the predecessors as to the successors and, especially, it could be applied to other contexts.

Regarding the determining factors of acceptance, Barach and al. (1988) and Sathe (1985) argue that the successor's acceptance is obtained when the successor's beliefs, values, and behaviors are in conformity with the organizational culture of the business and depending on the way at which the successor is beginning into the business as well as the level of confidence and respect who is accorded to him/her. Our results support partially these assertions. However, they clearly indicate, which was not revealed by our theoretical framework, that a smooth integration is the most important factor for the successor's acceptance. To begin at the bottom of the ladder allows to the successors to familiarize themselves with each department and

socialize with the other business members, while doing precise tasks to climb the ladder gradually.

One of our fundamental findings is about the fact that this way to gain acceptance for successors was a determining factor for the acceptance of young business people. Even if, according to some authors (Hugron, 1987; Kets de Vries, 1993; Lajeunesse, 1989; Longenecker and Schoen, 1978; Rosenblatt, de Milk, Anderson and Johnson, 1985; Richer and al., 2004), a precipitated or imposed beginning at the lead by either the predecessor or the successor himself can be a great source of difficulties which can ruin the process, we had never known which correlation or relation these elements can have. In our study, we understood that it was not enough for the successor to enter at “the bottom of the ladder”, but that it seems essential to use strategies (for example, to tell some special words, to do it gently, to go step by step) to gain the successor’s acceptance.

Finally, as all scientific research, this research has some limitations. The primary one is related to the research strategy. Of course, all the seven businesses selected correspond to the criteria generally attributed to SMEs. However, as mentioned by Santiago (2000), since the business size has an influence on the succession process, what types of leadership behaviors would the predecessors of large businesses adopt to gain the successors’ and even the rescuers’ acceptance if they do not have successors? In the same way, Cadieux (2004) as well as Richer and St-Cyr (2001) argue that the successors’ life partners have one or more roles to play during the succession process. Which behaviors would they adopt for their offspring’s acceptance? In the case of rescuers, would they intervene? And how would they proceed? These are all elements that we have not considered and that probably could have brought a larger understanding of the succession process. Here again, we do not have all the responses. In addition, the theoretical sampling procedure on the seven cases of businesses selected, four cases of woman and three

cases of man, is far from being representative of the whole situations for a reliable generalization, even if, according to Yin (1994), four to ten cases are sufficient for a comparative case study. So it would be very interesting to pursue the research with a greater number of cases.

REFERENCES

- Allouche J. and Amann, B., L'entreprise Familiale, un état de l'art. *Finance Contrôle Stratégie*, 3(1), 2000, 33-79.
- Aronoff, C.E., and Ward, J.L., A Golden Opportunity for Career Development. *Nation's Business*, 82, 1994, 66-67.
- Astrachan, J.H., and Shanker, M.C., Contribution to the U.S. Economy : A Closer Look. *Family Business Review*, 16(3), 2003, 211-219.
- Barach, J.A., Ganitsky, J., Carson, J.A., and Doochin, B.A., Entry of the Next Generation : Strategic Challenge for Family Business. *Journal of Small Business Management*, 26(2), 1988, 49-56.
- Bass, B.M., *Leadership and Performance Beyond Expectations*, New York, NY : Free Press, 1985.
- Bass, B.M., From Transactional to Transformational Leadership: Learning to Share the Vision. *Organizational Dynamics*, 18, 1990, 19-31.
- Bass, B.M., Debate : Is It Time to Stop Talking about Gender Differences, *Harvard Business Review*, Jan-Feb. 1991, 151-153.
- Bass, B.M., and Avolio, B.T., Shatter the Glass Ceiling : Women May Make Better Managers. *Human Resources Management*, 33(4), 1994, 549-560.
- Bayad, M. and Barbot, M.-C., Proposition D'Un Modèle De Succession Dans Les PME Familiales : Etude De Cas Exploratoire De La Relation Père-Fille. *In Actes du sixième congrès international*

francophone sur la PME, Montréal, 30 octobre au 1 novembre 2002.

- Beer, M., Performance Appraisal: Dilemmas and Possibilities, *Organizational Dynamics*, 9(3), 1981, 34-36.
- Belcourt, M., Burke, R.J. and Lee-Gosselin, H., *Une cage de verre : les entrepreneures au Canada*. Ottawa, ON : Conseil consultatif canadien sur la situation de la femme, 1991.
- Brown, L.M. and Gilligan, C., *Meeting at the Crossroads*. Cambridge, MA : Harvard University Press, 1992.
- Brown, R.B. and Coverley, R., Succession Planning in Family Business : A Study from East Anglia, U.K. *Journal of Small Business Management*, 37(1), 1999, 93-97.
- Bruce, D. and Picard, D., La relève, la clé de la réussite : la relève des PME et la prospérité économique au Canada. Saisi le 26 avril 2007, de <http://www.fcei.ca/researchf/reports/rr3007f.pdf>, 2005.
- Bruce, D. and Picard, D., La relève des PME : mise à jour. Saisi le 26 janvier 2009, de www.cfib.ca/success_fr/pdf/Successionf-2006-10.pdf, 2006.
- Brush, C., Research on Women Business Owners: Past Trends, A New Perspective and Future Directions. *Entrepreneurship Theory and Practice*, 16(4), 1992, 5-30.
- Burns, J.M., *Leadership*. New York, NY: Harper, 1978.
- Buttner, E.H., Examining Female Entrepreneurs' Management Style : An Application of a Relational Frame, *Journal of Business Ethics*, 29, 2001, 253-269.
- Buttner, E.H., High-performance Classrooms for Women? Applying a Relational Frame to Management/Organizational Behaviour Courses, *Journal of Management Education*, 26(3), 2002, 274-290.
- Cabrera-Suárez, K., Leadership Transfer and The Successor's Development in the Family Firm. *Leadership Quarterly*, 16(1), 2005, 71-83.

- Cadieux, L., *La succession dans les entreprises familiales : une étude de cas sur le processus de désengagement du prédécesseur*. Thèse de doctorat. Université du Québec à Trois-Rivières, Trois-Rivières, Québec, 2004.
- Cadieux, L., Lorrain, J. and Hugron, P., La succession dans les entreprises familiales dirigées par les femmes : une problématique en quête de chercheurs. *Revue Internationale PME*, 15(1), 2005, 115-130.
- Center for Women's Business Research, New Study Quantifies Thinking and Management Styles Differences between Women and Men Business Owners. National Foundation of Women Business Owners. Saisie le 7 juin 2006, 1999<http://www.womensbusinessresearch.org/pressreleases/>. 2006.
- Chaganti, R., Management in Women-Owned Enterprises. *Journal of Small Business Management*, 24(4), 1986, 18-29.
- Churchill, N.C. and Hatten, K.J., Non-Market-Based Transfers of Wealth and Power : A Research Framework for Family Businesses. *American Journal of Small Business*, 11(3), 1987, 51-64.
- Cole, P., Women in Family Business, *Family Business Review*, 10(4), 1997, 353-371.
- Cunnigham, B.G. and Ho, J., Succession in Entrepreneurial Organizations : A Comparison of Successful and Less Successful Cases. *Journal of Small Business and Entrepreneurship*, 11(3), 1994, 79-96.
- Davidson, M.J. and Cooper, C.L., Females Managers in Britain : A Comparative Perspective, *Human Resource Management*, 26(2), 1987, 217-242.
- Davis, P.S. and Harveston, P.D., The Influence of Family on The Family Business Succession Process: A Multi-Generational Perspective. *Entrepreneurship Theory and Practice*, 22(3), 1998, 31-53.

- Deloitte and Touche, *Les entreprises familiales canadiennes sont-elles une espèce en voie de disparition?* Saisie le 28 novembre 2004, de www.deloitte.ca/fr/pubs/tax/familybus/survey_f.pdf. 1999.
- Dumas, C., Integrating the Daughter into Family Business Management, *Entrepreneurship Theory and Practice*, 16(4), 1992, 41-55.
- Eagly, A.H. and Carli, L., The Female Leadership Advantage : An Evaluation of the Evidence, *The Leadership Quarterly*, 14, 2003, 807-834.
- Eagly, A.H. and Johannesen-Schmidt, M.-C., The Leadership Styles of Women and Men, *Journal of Social Issues*, 57(4), 2001, 781-797.
- Eagly, A.H. and Johnson, B., Gender and Leadership Style: A Meta-Analysis, *Psychological Bulletin*, 108, 1990, 233-256.
- Eagly, A.H., Johannesen-Schmidt, M.-C. and van Engen, M.L., Transformational, Transactional, and Laissez-Leadership Styles : A Meta-Analysis Comparing Women and Men, *Psychological Bulletin*, 129(4), 2003, 569-591.
- Eagly, A.H., Makhijani, M.G. and Klonsky, B.G., Gender and the Evaluation of Leaders, *Psychological Bulletin*, 111, 1992, 3-22.
- Family Firm Institute (FFI), Facts And Perspectives on Family Business, [http ://www.ffi.org/looking/ fbfacts_us.html](http://www.ffi.org/looking/fbfacts_us.html), Novembre 2004.
- Fiegener, M.K., Brown, B.M., Prince, R. All. and File, K.M., Passing on Strategic Vision: Favored Modes of Successor Preparation by CEOs Of Family and Nonfamily Firms, *Journal of Small Business Management*, 34(3), 1996, 15-26.
- Fletcher, J., Relational Practice: A Feminist Reconstruction of Work, *Journal of Management Inquiry*, 7(2), 1998, 163-186.
- Gilligan, C., *Une si grande différence*. Paris, FR : Flammarion, 1986.
- Grenier, C. and Josserand, E., Recherche sur le contenu et recherche sur le processus. In R.-A. Thiétart (dir.). *Méthodes de recherche en management* (p. 104-136). Paris, FR : Dunod, 1999.

- Groupe Conseil sur l'Entrepreneuriat Féminin, *Les défis des entrepreneures*. Rapport du Groupe-Conseil sur l'entrepreneuriat féminin. Québec, QC : Ministère de l'Industrie et du Commerce, Gouvernement du Québec, 2000.
- Haddadj, S. and D'Andria, A., Mesurer les phénomènes agissant sur la transmission des PME familiales, *Revue Française de Gestion*, 132, 2001, 11-22.
- Handler, W.C., Succession in Family Firms : A Mutual Role Adjustment between Entrepreneur and Next- Generation Family Members, *Entrepreneurship Theory and Practice*, 15(1), 1990, 37-51.
- Hartenian, L.S., *Achieving Performance Appraisal System Goals : Understanding the Relationship between Business-Level Strategy and Performance*, Ann Arbor, Michigan : UMI Dissertation Services, 1991.
- Hegelsen, S., *The Female Advantage: Women's Ways of Leadership*. New York, NY: Doubleday/Currency, 1995.
- Herzog, V.L., Trust Building on Corporate Collaborative Project Teams, *Project Management Journal*, 2001, 28-37.
- Hisrich, R. and Brush, C., The Women Entrepreneur: Management Skills and Business Problems, *Journal of Small Business Management*, 22(1), 1984, 30-37.
- Hlady-Rispal, M., *La méthode des cas : application à la recherche en gestion*. Belgique : De Boeck Université, 2002.
- Hugron, P., *Succession managériale dans les PME Familiales au Québec*. Monographie. Montréal, QC: Institut de recherches politiques et les Presses HEC, 1987
- Hugron, P., *L'entreprise familiale. Modèle de réussite du processus successoral*. Monographie. Montréal, QC : Institut de recherches politiques et les Presses HEC, 1992.
- Hugron, P., *L'entrepreneur et la succession d'entreprise : analyse de douze processus (1985)*. (Cahier de recherche sur les entreprises

- familiales n^o. GREF-93-03). École des Hautes Études Commerciales, Montréal, Québec, 1993.
- Jordan, J., Kaplan, A., Miller, J.B., Stiver, I., and Surrey, J., *Women's Growth in Connection*. New York, NY: Guilford, 1991.
- Katzenbach, J., and Smith, D., *Les Équipes Haute Performance. Imagination et discipline*. Paris, FR: Dunod, 1994.
- Kets de Vries, M.F., The Dynamic of Family Controlled Firm: The Good and the Bad News, *Organizational Dynamics*, 1993, 59-71.
- Lajeunesse, C., *La succession managériale dans la PME familiale : études de règne-conjoint*. Mémoire de maîtrise, École des Hautes Études Commerciales, Montréal, Québec. 1989.
- Lambrecht, J., Multigenerational Transition in Family Business: A New Explanatory Model, *Family Business Review*, 18 (4), 2005, 267-282.
- Lansberg, I. and Astrachan, J.H., Influence of Family Relationships on Succession Planning and Training: The Importance of Mediating Factors, *Family Business Review*, 7(1), 1994, 39-59.
- Lavoie, D., *Les entrepreneurs : pour une économie canadienne renouvelée*. Ottawa : Conseil consultatif canadien sur le statut de la femme, 1988.
- Longenecker, C.O. and Nykodym, N., Public Sector Performance Appraisal Effectiveness: A Case Study, *Public Personnel Management*, 25(2), 1996, 151-164.
- Longenecker, J.G. and Schoen, J.E., Management Succession in the Family Business, *Journal of Small Business Management*, 6(3), 1978, 1-6.
- Lorrain, J., Powers, T., and Koffi, V., *La relève entrepreneuriale dans les entreprises: étude de trois régions du Québec*. Rapport inédit, Ministère du Développement économique, Innovation et Exportation, 2005.
- McClelland, D., *Power : The Inner Experience*, New York, NY : Irvington, 1979.

- Miller, J.B., *Toward a New Psychology of Women* (2 ed.), Boston, MA : Beacon Press, 1986.
- Miller, J.B., The Development of Women'S Sense of Self. In J.A. Kaplan, J.B., 1991.
- Mouline, J.P., Dynamique de la succession managériale dans la PME familiale non cotée, *Finance Contrôle Stratégie*, 3(1), 2000, 197-222.
- Morris, M.H., Williams, R.O., Allen, J.A., and Avila, R.A., Correlates of Success in Family Business Transitions, *Journal of Business Venturing*, 12, 1997, 385-401.
- Murphy, K.R. and Cleveland, J.N., *Understanding performance appraisal : social organizational and goal-based perspectives*. Thousand Oaks, CA : Sage Publications, 1995.
- National Foundation for Women Business Owners, Titre de la page internet. Saisi le 14 juin 2006, de, 2004.
<http://www.womensbusinessresearch.org/pressreleases/>
- Paillé, P. and Mucchielli, A., *L'analyse qualitative en sciences humaines et sociales*, Paris, FR : Armand Colin, 2003.
- Poudrier, L., *L'acceptation d'un système d'appréciation du rendement organisationnel : une étude longitudinale*. Thèse de doctorat, Université de Montréal, Montréal, Québec, 2000.
- Powell, G.N., One More Time: Do Female and Male Managers Differ? *Academy of Management Executive*, 4(3), 1990, 68-75.
- Proulx, S., *La problématique de l'entrepreneuriat au féminin. Quelques éléments de base*. (Rapport n° 1445), Québec : Corporation Jonathan, 1995.
- Putnam, C.A., *A Conceptual Model of Women Entrepreneurs in Small Businesses*, Thèse de doctorat, UMI : Oregon State University, 1993.
- Richer, F. and St-Cyr, L., La planification de la relève dans les PME : statistiques et réflexions ». *Gestion, revue internationale de gestion*, 26(2), 2001, 19-26.

- St-Cyr, L. and Richer, F., *L'entrepreneuriat féminin au Québec. Dix études de cas*. Montréal, QC : Presses de l'Université de Montréal, 2007.
- Richer, F., St-Cyr, L., and Youssef, L., La transmission d'entreprise au Québec : des stratégies diversifiées. *Revue Internationale de Gestion*, 29(3), 2004, 95-102.
- Riebe, M., The Leadership Style of Women Entrepreneurs: And Alternative Model of Successful Management Practices, *Actes du 50^e congrès international de l'ICSB*, Washington, DC, 16-18 mai 2005.
- Robinson, S., An Examination of Entrepreneurial Motives and Their Influence on The Way Rural Women Small Business Owners Manage Their Employees, *Journal of Developmental Entrepreneurship*, 6(2), 2001, 151 -167.
- Rosenblatt, P.C., de Milk, L., Anderson R.M., and Johnson, P.A., *The Family in Business*, San Francisco, CA: Jossey-Bass, 1985.
- Rosener, J., Ways Women Lead. In Nancy A. Nichols. *Reach for the top* p.13-22. Boston, MA : Harvard University School Press, 1994.
- Salganicoff, M., Women in Family Business: Challenges and Opportunities, *Family Business Review*, 3(2), 1990, 125-137.
- Santiago, A.L., Succession Experience in Philippine Family Business, *Family Business Review*, 13(1), 2000, 15-40.
- Sathe, V., *Culture and Related Corporate Realities*. Homewood, III : RD : Irwing Inc., 1985.
- Seymour, K.C., Intergenerational Relationship in the Family Firm: The Effect on Leadership Succession, *Family Business Review*, 6(3), 1993, 263-281.
- Sharma, P., An Overview of the Field of Family Business Studies : Current Status and Directions for the Future, *Family Business Review*, 17(1), 2004, 1-36.
- Tarricone, P. and Luca, J., Employees, Teamwork and Social Interdependence a Formula for Successful Business ?, *Team*

- Performance Management: An International Journal*, 8 (3/4), 2002, 54-59.
- Van Engen, M.L., van der Leeden, R., and Willemssen, T.M., Gender, Context And Leadership Styles: A Field Study, *Journal of Occupational Psychology*, 74, 2001, 581-598.
- Vecchio, R.P., Leadership and Gender Advantage, *The Leadership Quaterly*, 13, 2002, 643-671.
- Vecchio, R.P., In Search of Gender Advantage, *The Leadership Quaterly*, 14, 2003, 835-850.
- Vera, F.C. and Dean, M.A., An Examination of the Challenges Daughters Face in Family Business Succession, *Family Business Review*, 18(4), 2005, 321-345.
- Vikinias, T. and Cartan, G., Competences of Australian Women in Management, *Women in Management Review*, 8(3), 1993, 31-35.
- Ward, J., *Keeping the Family Business Healthy*, San Francisco, CA : Jossey-Bass, 1987.
- Yin, R.K., *Case Study Research, Design and Methods*, Applied Social Research Methods Series, 5 (2ed.). London, GB: Sage Publications, 1994.

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