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Abstract

This paper examines how Internet Cafes (I-Cafés) in New Zealand can enhance their services in the market typified by growing competition both within the industry and from other industries. I-Cafés in the North Island were studied to provide the background material. Along with interviews these observations were used to derive the constituents of I-Cafés. Selected I-Cafes were benchmarked against these constituents. I-café users were surveyed to rank these constituents on their performance as well as their importance Connection speed, experience and values that include atmosphere, type of customer, pricing, friendly service and seating were found to lead to satisfaction.

1. Introduction

The Internet has "created a new way of doing old things, rather than being a technology that changes the manner in which people live their lives" [10]. The world is becoming increasingly reliant on Internet connections for business and personal communications; having Internet access is becoming a necessity, especially while traveling [3]. The Internet has provided us with a new channel of communication and keeping in touch in businesses, with friends and family. We have moved from the age of physical letters to virtual mails, from talking over the phone to virtual chatting, with such products as ICQ. The Internet has created a new dimension for traditional tasks; a way of doing things quickly and immediately. This explains the wide adoption in the use of the Internet, and thus I-Café is rapidly growing in popularity [7].

The Internet has become a major component in our daily life; some people have even become addicted to the Internet [5]. Entrepreneurs saw this as a good business opportunity and developed the concept of I-Cafés. The concept of the European style café had been successfully adopted into the New Zealand culture. Cafés are places where people gather together and chat or just simply read newspapers. More recently millions of people have begun to use the Internet to communicate at home, school or the workplace. The concept of an Internet Café or Cyber Café (referred for convenience in this paper as I-Café) is given to those cafés that provide a means of Internet access to people.

I-cafés are facing a competitive market, not just from those in the same industry but also from other businesses that provide access to the Internet. There are many issues that influence the adoption and penetration of I-Cafés in New Zealand. The format of providing Internet access in a café environment has evolved and there are many different forms of I-Cafés. The concept of I-Café has shifted due to shifts in user groups and their changing needs. Competition has also strengthened, as other businesses want a share of this market by providing Internet access. Internet access has been made easier. You can now find standalone computers in shopping malls where you can surf the net and check email simply by putting money into the slot. Backpackers are also a market rival, providing Internet access to guests. Advances in technology, such as broadband and wireless technology will also influence the I-Café Industry. Additionally, with the increase in households that own computers and the lower costs of high-speed connections, more and more people are able to afford Internet access at home. The latest study conducted by Statistics New Zealand indicates that 47% of New Zealand households have a computer at home, and 37% of households have access to the Internet [9]. With all these factors influencing the use of I-Café, survival of individual I-Cafés is threatened. They must be competitive. To remain so, they must understand what the customers want and to define the priorities, given the limited resources available [1]. Thus the objective of this research is to discover "what are the determinants of user satisfaction?"

2. Study Methodology

A multi-methodology approach [6] [8] was used in this study: observation, interview and survey. Observation and interview were used to create the set of constituents, the survey were used to rank these constituents in terms of their importance.

2.1 I-Café Satisfaction Constituents

The collection of data was done in three distinct stages. The first stage was unstructured observation. This was conducted in the Auckland region. Prior to this the interviewer had not formulated definitive ideas on the particular aspects on which the study should focus. The second stage was the interview stage. A semi-structured interview was conducted with Interviewee A to elucidate the preliminary issues so that in-depth investigation could be designed on the variables needing further attention. The third stage was structured observations. These were conducted on 25 I-Cafés in Auckland; 5 in Wellington; 4 in Rotorua; 3 in Taupo and 2 in Hamilton to gain a deeper understanding on the I-Café industry and on the variables

that emerged in the Interview stage.

Table 1 provides a summarised version of the findings from the literature, interviewee and from researcher participation. The "+" denotes the variables considered relevant for customer satisfaction as derived from each source.

Table 1 Sources of Customer Satisfaction Variables

Constituents	Literature	Interviewee	Researcher
Speed	+		+
Service Variety	+		+
Games Variety	+	+	+
Software Variety	+		+
Atmosphere	+		+
Type of Customer			+
Price	+	+	+
Friendly Service	+		+
Payment Variety	+		+
Computer Availability		+	
Food/Drink Variety	+		+
Personal Space			+

The literature list is available in Tsui [11].

All these variables are said to influence the level of satisfaction. Thus, it is critical that they be tested.

2.2. Survey

Literature and field observation identified the measurement variables of this study; questionnaires will therefore be used to capture the user perspective for these variables. A questionnaire is the most cost effective and efficient way to obtain data from large samples.

Convenience sampling was used for this study as a complete sampling frame from the population of all I-Café users and non I-Café users would be costly to implement. Questionnaires were either administered personally or distributed in class by the instructor. Both these methods ensure a fast response rate and can be collected within a short period of time. The format of the questionnaire was based on Chung [2]. Sekaran's [8] guidelines for developing questionnaires were followed to ensure minimal bias. Wording, categories and scale were carefully considered. A pilot questionnaire was used to check the understandability.

SPSS was used to analyse the survey data. Factor analysis [4] was used to test and reduce the operational variables. Multiple regression was used to test the significance of the operational factors to user satisfaction.

3. Analysis

The importance of each element as measured in the survey is shown in Table 2. The average importance element is measured in a 7-point scale, from 1 indicating very unimportant to 7 indicating very important. Speed has the highest mean (6.16), followed closely by price (5.97), comfortable atmosphere (5.69), personal space (5.63), availability of computers for use (5.62), friendly staff service (5.5) and seating (5.43). The range of services available (4.96), type of customer (4.8), range of software available (4.78), payment option (4.7), range of food and drinks available (4.5) and range of games available (4.5) tend to be close to neutral. None of the elements appeared to be unimportant. Factor analysis was conducted to reduce and group these variables, as the number of variables is quite large. Table 3 shows how the 13 variables loaded into 5 factors. The factors are named based on the set of variables that they contain. These factors will be used in the regression model to test against satisfaction.

Table 2 The Importance of Each Element

Variable	Average Importance	Importance Score
Speed	6.16	88%
Range of Services Available	4.96	71%
Range of Games Available	4.46	64%
Range of Software Available	4.78	68%
Comfortable Atmosphere	5.69	81%
Type of Customer	4.8	69%
Price	5.97	85%
Friendly Staff Service	5.5	79%
Payment Option	4.7	67%
Seating	5.43	78%
Personal Space	5.63	80%
Range of Food and Drinks Available	4.5	64%
Availability of Computers	5.62	80%

Regression analysis is used to understand which factors predict the satisfaction of I-Café users. These five factors were used as independent variables and satisfaction was used as the dependent variable. Table 4 denotes the result from regression analysis.

Table 3 Factor Label

Factor Label	Factor	Variable	Loading
Experience and Value	1	Atmosphere	0.752
		Type of Customer	0.658
		Price	0.721
		Friendly Service	0.648
		Seating	0.637
Gaming Related	2	Game Variety	0.602
		Payment Option	0.803
		Personal Space	0.684
Work Related	3	Service Variety	0.886
		Software Variety	0.867
Fundamentals	4	Food/Drinks Variety	0.618
		Availability of Computer	0.798
Speed	5	Speed	0.920

The variables that seem to be related to Satisfaction are Experience and Value, and Speed. Examination of the correlation matrix in Table 4 indicates that Speed is most closely correlated with Overall Satisfaction because it has the greatest correlation coefficient (0.399). Notice that there are no correlations between independent variables because orthogonal rotation was used in the factor analysis. This ensures that all independent variables in the regression analysis are appropriate.

Stepwise regression was then used on the 5 variables. Stepwise estimation starts by selecting variables for inclusion in the regression model by selecting the best predictor of the dependent variable. Additional independent variables will be selected in terms of their incremental explanatory power they add to the regression model. By choosing this method, only significant variables are included. Under the Stepwise Regression method, we will choose model 2 because model 2 has the largest adjusted R^2 (0.236) (Table 5). This means that model 2 is able to explain the most variance in the dependent variable. Model 2 refers to Speed and Experience and Value. All the other variables were removed because they are not significant at the 0.05 level. Table 6 shows that the regression model with 2 variables is significant at the 0.05 level. This indicates that the two I-Café factors are related to Overall Satisfaction, namely: Speed and Experience and Value.

Table 4. Correlation Matrix between Overall Satisfaction and I-Café variables

	Overall Satisfaction	Experience and Value	Gaming Related	Business Related	Fundamentals	Speed
Overall Satisfaction	1.000	.278	.192	.092	.187	.399
Experience and Value	.278	1.000	.000	.000	.000	.000
Gaming Related	.192	.000	1.000	.000	.000	.000
Business Related	.092	.000	.000	1.000	.000	.000
Fundamentals	.187	.000	.000	.000	1.000	.000
Speed	.399	.000	.000	.000	.000	1.000

Table 5 Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.399[a]	.159	.144	.638
2	.486[b]	.236	.209	.613

[a.] Predictors: (Constant), Speed

[b.] Predictors: (Constant), Speed, Experience and Value

[c.] Dependent Variable: Overall Satisfaction

Table 6 Significance of Regression Model

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.381	1	4.381	10.775	.002[a]
	Residual	23.178	57	.407		
	Total	27.559	58			
2	Regression	6.512	2	3.256	8.663	.001[b]
	Residual	21.048	56	.376		
	Total	27.559	58			

a. Predictors: (Constant), Speed

b. Predictors: (Constant), Speed, Experience and Value

c. Dependent Variable: Overall Satisfaction

Table 7 Regression Coefficients of I-Café Variables

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.797	.083		45.732	.000
	Speed	.270	.082	.399	3.283	.002
2	(Constant)	3.797	.080		47.568	.000
	Speed	.270	.079	.399	3.414	.001
	Experience and Value	.188	.079	.278	2.381	.021

a. Dependent Variable: Overall Satisfaction

Since the assumptions behind the regression variate were met, so we can proceed with the interpretation. Table 7 shows that Speed and Experience and Value are all significant at the 0.05 level. The best predictor of Overall Satisfaction is Speed. Experience and Value are significant but are insubstantial compared to Speed. We conclude that both variables explain Overall Satisfaction. Gamer Related, Business Related and Fundamentals do not relate to overall satisfaction.

4. Conclusions

I-Cafés' resources are limited, hence they need to concentrate on resources that would generate the greatest satisfaction. While improving all the operational factors would have a positive affect on satisfaction, the affects of these different elements differ significantly. I-Cafes should only focus on the operational factors that would lead to greatest satisfaction to avoid wasting resources on those that would not generate as much benefit.

I-Café users consider connection speed as the most important element of an I-Café. Price, comfortable atmosphere, personal space, availability of computers for use, friendly staff service and seating were all consider relatively important as opposed to the remaining operational factors. However, not all of these elements lead to a significant increase level of satisfaction. In other words, although the elements may be considered important, the improved provisioning of these elements may not significantly satisfy users.

The experience and value of the visit; price, comfortable atmosphere, type of customer, friendly staff service and seating are the second set of elements that indicate a moderate increase to satisfaction. This indicates that customers are price sensitive so charging a premium is not an effective strategy, but yet customers still want a premium experience.

The other operational factors; variety of games, variety of payment options, variety of service, variety of software, variety of food and drinks, personal space and availability of computers do not significantly improve overall satisfaction.

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