A STUDY ON EFFECTIVENESS OF E-COMMERCE APPLICATION IN SMALL AND MEDIUM SCALE ENTERPRISES (SMEs) IN CHENNAI
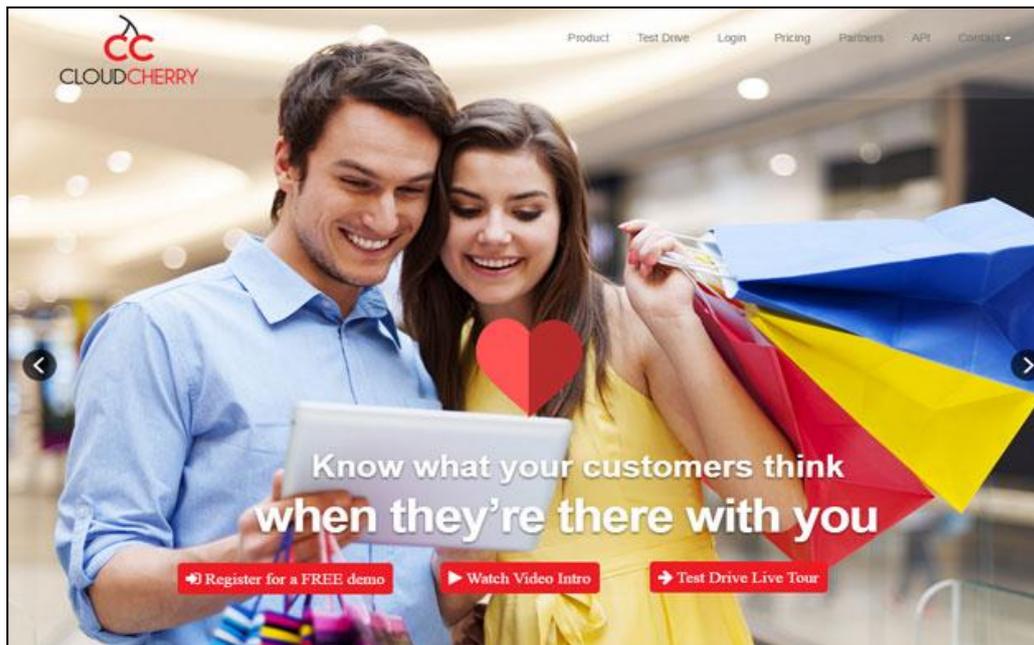
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ABSTRACT :

    In India, many small and medium enterprises are investing more and more in the Internet business. In order to survive in today's challenging environment, it is imperative that SMEs be competitive and resilient. So, the main purpose of this research is to study the effect of electronic commerce applications on the business processes in the small and medium enterprises.

    The data for this study were derived from the administration of questionnaires on the owners of 65 MSEs selected for the study. The data collected were analyzed using various statistical tools such as Chi square, one sample run test, and correlation.

    The study reveals that the majority of the MSE owners in the study area are yet to adopt e-commerce. Moreover, those that have adopted it are at the early stage of ecommerce. Besides, the study shows that retail MSEs' online sale is virtually zero. The research concludes that for the opportunities offered by the e-commerce to be optimally utilized in Chennai retailing MSEs, regular

electricity supply, government financial assistance, internet security, and developed legal and regulatory system must be provided.

KEYWORDS: electronic commerce, small and medium enterprise, business processes, management processes, India.

INTRODUCATION:

I. GENERAL INTRODUCTION
1.1 General Introduction
    With the advent of planned economy in 1951 and the subsequent industrial policy followed by the Government of India, both the planners and the government earmarked a special role for small-scale enterprises and medium scale enterprises in the Indian economy.
    Certain products were reserved for small-scale units for a long time, though this list of products is decreasing due to changes in industrial policies and climate. SMEs always represented the model of socio-economic policies of the government of India which emphasized judicious use of foreign exchange for the import of capital goods and inputs; labor intensive mode of production; employment generation; no concentration of diffusion of economic power in the hands of a few (as in the case of big houses); discouraging monopolistic practices of production and marketing; and finally effective contribution to foreign exchange earning of the nation with low import-intensive operations.

1.2 E-Commerce
    E-commerce refers specifically to buying and selling products or services over the Internet. E-Commerce refers to all aspects of doing business electronically. The e-commerce directive cited many times in this guide refers to information society services.
    In its simplest sense, "commerce" is an act of trade between two parties: where the exchange is negotiated under a set of mutually acceptable conditions, so that both parties emerge satisfied with the result.

1.3 Research gap and statement of the problem
    Nowadays most companies have discovered the importance of e- commerce and have started the shift from traditional trade to electronic trade. In our current era, most of the companies are successful to gaining this target. Pioneer companies start to implement their commercial procedures based on internet networks, in order to represent services to the costumers, distribute and represent the product, keep their old customers and absorb new customers.

1.4 Review of literature
    Risch, Daniel, Schubert, Hetra, LeimstoH, U.W.E. (2006). These three researchers concluded that there is no standard procedure for the selection of personalization functions in a given context. Every company has to identify the most appropriate personalization functions for its own ecommerce.
    Delisle, Sylvain, Moreau, FRANc M.F., and Desroches, Bernard Vermot (2005). A group of mentioned researchers believe that e-business-in particular B2B (business-to-business), B2C {business-to-consumer) or B2G (business-to-government)-and information technologies in general offer potentially powerful means to boost the development of SMEs in the context of today's global

economy. In the province of Quebec (Canada), a large proportion of SMEs are located outside a handful of large urban centers.Consequently, any large-scale regional development initiation, based on specific policies put forward by a government, must consider SMEs' dynamics and need to be in order to stand a reasonable chance of success.

1.5 Scope of the study
- ❖ Innovative products, better services and exploring new market opportunities;
- ❖ Shift in value added and content components of what is made and sold;
- ❖ Changes to economies of scale and the traditional barriers and advantages of large enterprises;

II. RESEARCH METHODOLOGY
2.1 Introduction
According to Clifford Woody research comprises defining and refining problems, formulating hypothesis or suggested solutions, collecting, organizing and evaluating data; making deductions and researching conclusions and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis.

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. It comprises of theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as paradigm, theoretical model, phases and quantitative or qualitative techniques.

2.1 Type of Research
Research can be classified on the basis of either technique or function. Experiments, surveys, and observational studies are just a few command research techniques. Classifying research by its purpose or function shows how the nature of the marketing problem influences the choice of methods. The nature of the problem determines whether the research is explorative, Descriptive, or casual.

In this research the objective is to describe what a certain research population has in common, and what differs. This research can thereby be classified as descriptive.

2.1.1 Research instruments
The research instruments used in this study is 'Structured Questionnaire'. Structured Questionnaire is that in which there are predetermined questions related to the aspect for which the research collects data. The questions are presented in the same wording and same order for every respondent.

2.2 Objectives of the study
- ❖ To identify the e-commerce acceptability in SMEs.
- ❖ To find the role of e-commerce in marketing functions.

2.3 Survey technique
The Structured Questionnaire is used to collect data from respondents which consists of open ended, close ended, multiple choice etc.

2.4 Target Respondents
- ❖ The results could be skewed because of a small sample size of 65 only.
- ❖ The target respondents were only the SMEs in Chennai.

2.5 Sampling
Sampling is concerned with the selection of a subset of individuals from within a statistical population to estimate characteristics of the whole population.

2.6 Population
A population can be defined as including all people or items with the characteristic one wish to understand. Because there is very rarely enough time or money to gather information from everyone or everything in a population, the goal becomes finding a representative sample (or subset) of that population. For this study population are the SMEs – Chennai.

2.7 Data Processing
Data collection is very essential to study the information, facts, figure that are directly related to the problem that has been formulated. The task of data collection begins after a research problem has been defined and research plan has been decided. The kinds of data collected are:

2.7.1 Primary data
Primary data are those collected a fresh and for the first time and thus happen to be original in character. Here primary data is collected through Questionnaire. The data was collected in such a manner to obtain correct information, graded suitably for the study.

2.7.2 Secondary data
Secondary data are collected from various Websites, journals, magazines etc.

2.8 Period of Study
The study was under taken for 3 months, May 2015 to July 2015, during the period the following steps were taken:
- ❖ Objectives were set and questionnaire was finalized.
- ❖ Data were collected and recorded.
- ❖ Data were analyzed and interpreted.
- ❖ Reports were generated.

2.9 Pilot Study
A pilot survey with 20 samples from respondents is conducted for testing the validity of the questions. It was found that there is no need for changes in the questionnaire and hence the same questionnaire is used for final survey also.

2.10 Limitations
- ❖ The sample size chosen is covered only a small part of the whole population.
- ❖ The study is confined to limited period only.
- ❖ Accuracy of the study is purely based on the information given by the respondents.

III.ANALYSIS AND INTERPRETATION
3.1 CHI-SQUARE
Aim:

To find the significant difference between company origin and clear contract can be effectives on the level of E-Commerce acceptablity of these enterprises

Null hypothesis H$_0$:

There is no significant difference between company origin and clear contract can be effectives on the level of E-Commerce acceptablity of these enterprises

Alternative hypothesis H$_1$:

There is significant difference between company origin and clear contract can be effectives on the level of E-Commerce acceptablity of these enterprises

Table no 3.1.1

Factors	Very much	Much	Medium	Low	Not affected	Total
Less than 2 year	4	2	3	2	2	13
2-5 years	1	3	3	2	3	12
6-10 years	2	2	3	4	2	13
11-15 years	3	2	2	3	1	11
16-20 years	4	3	3	3	3	16
TOTAL	14	12	14	14	11	65

O_i	E_i	$O_i - E_i$	$(O_i - E_i)^2$	$(O_i - E_i)^2 / E_i$
2.8	4	-1.2	1.4	0.4
2.6	2	0.6	0.3	0.2
2.8	3	-0.2	0.0	0.0
2.4	2	0.4	0.1	0.1
3.4	2	1.4	2.1	1.0
2.4	1	1.4	2.0	2.0
2.2	3	-0.8	0.6	0.2
2.4	3	-0.6	0.4	0.1
2.0	2	0.0	0.0	0.0
3.0	3	0.0	0.0	0.0
2.8	2	0.8	0.6	0.3
2.6	2	0.6	0.3	0.2
2.8	3	-0.2	0.0	0.0
2.4	4	-1.6	2.7	0.7
3.4	2	1.4	2.1	1.0
2.8	3	-0.2	0.0	0.0
2.6	2	0.6	0.3	0.2
2.8	2	0.8	0.6	0.3
2.4	3	-0.6	0.4	0.1
3.4	1	2.4	6.0	6.0
2.2	4	-1.8	3.2	0.8
2.0	3	-1.0	0.9	0.3
2.2	3	-0.8	0.6	0.2

1.9	3	-1.1	1.3	0.4
2.7	3	-0.3	0.1	0.0
				14.6

The calculated value of Ψ^2 =   14.6
Take Level of significance   =   0.05
 Degree of Freedom   = (r-1) (c-1)
                                  = (5-1) (5-1)
                                  = 16
Table Ψ^2 (0.05, 3)   =   26.30

Result:
     Since calculated Ψ^2 = 14.6 < Tabulated Ψ^2 = 26.30
     Therefore Accept H_0.

Decision:
          There is no significant difference between company origin and clear contract can be effectives on the level of E-Commerce acceptability of these enterprises

3.1.2 ONE SAMPLE RUN TEST:

Null hypothesis H_0:
          The employees in the company use computers in their daily work.

Alternative hypothesis H_1:
          The employees in the company does not use computers in their daily work

Run:
   YYYYYYY I NN I Y I NN I YYY I NNNN I YYY I NN I YY I N I Y I N I YYY I N I YY I N I YYYYY I N I Y I N I YY I N I YYY I N I Y I N I Y I NN I YYYYYY I N I YY
r = 31 $n_1 = 43$ $n_2 = 22$

Formula:
     μ_r = $(2 n_1 n_2) / (n_1 + n_2) + 1$
      σ_r = $\sqrt{ [(2 n_1 n_2) (2 n_1 n_2 - n_1 - n_2) / (n_1 + n_2)^2 (n_1 + n_2 - 1)] }$
     I Z I   = $r - \mu_r / \sigma_r$

Calculation:
     μ_r = $(2 n_1 n_2) / (n1 + n_2) + 1$
                    =   (2*43*22) / (43 + 22) + 1
                    =   (1892) / 65 + 1
     μ_r =   30.11
     σ_r = $\sqrt{ [(2 n_1 n_2) (2 n_1 n_2 - n_1 - n_2) / (n_1 + n_2)^2 (n_1 + n_2 - 1)] }$
                    = $\sqrt{ [(2*43*22) (2*43*22 - 43 - 22) / (43 + 22)^2 (43 + 22 - 1)] }$
                    = $\sqrt{ (1892 * 1827) / (4225 * 65) }$
                    = $\sqrt{ 3456684 / 270400 }$
     σ_r =   3.575

$$|Z| = r - \mu r / \sigma r$$
$$= 31 - 30.11 / 3.575$$
$$= 0.89 / 3.575$$
$$|Z| = 0.249$$

Take Level of significance   = 0.05
Tabulated   value of Z   = 1.96
Calculated value of Z   = 0.249

Result:

Since calculated Z = 0.249 < Tabulated Z = 1.96. Therefore Accept H_0.

Decision:

The employees in your company use computers in their daily work.

3.1.3 Karl Pearson Correlation:

Null hypothesis H_0:

There is no Correlation between new marketing practice & tools and cost to the customer.

Alternative hypothesis H_1:

There is Correlation between new marketing practice & tools and cost to the customer.

Table: 3.1.3.1

Factors	Very much	Much	Medium	Low	Not affected	Total
Very much	4	2	3	2	2	13
Much	1	3	3	2	3	12
Medium	2	2	3	4	2	13
Low	3	2	2	3	1	11
Not affected	4	3	3	3	3	16
TOTAL	14	12	14	14	11	65

x	y	dx	dy	dx^2	dy^2	dxdy
14	13	1	0	1	0	0
12	12	-1	-1	1	1	1
14	13	1	0	1	0	0
14	11	1	-2	1	4	-2
11	**16**	-2	3	4	9	-6
65	**65**	0	**0**	8	14	-7

$\sum dx^2 = 8$ $\sum dx = 0$

$\sum dy^2 = 14$ $\sum dy = 0$

$\sum dxdy = -7$ n = 5

$r = N\sum dxdy - (\sum dx \sum dy) / \sqrt{(N\sum dx^2 - \sum(dx)^2)} \sqrt{(\sum dx^2 - \sum(dy)^2)}$

$= 5(-7) - 0 / \sqrt{(5*8-8)} - 0 \sqrt{(5*8 - 14)}$

$= -35 / \sqrt{32} \sqrt{26}$

$= -35 / (5.66)(5.09)$

$= -35 / 28.80$

$r = -1.22$

Result:

There is a negative correlation between new marketing practice & tools and cost to the customer.

Therefore accept H_1

CONCLUSION:

There is Correlation between new marketing practice & tools and cost to the customer.

IV. FINDINGS, SUGGESTIONS AND CONCLUSION

4.1.1 Chi square

Since calculated value < Tabulated value

Therefore Accept H0.

There is no significant difference between company origin and clear contract can be effective on the level of E-Commerce acceptability of these enterprises

4.1.2 One Sample Run Test

Since calculated value < Tabulated value.

Therefore Accept H_0.

The employees in your company use computers in their daily work.

4.1.3 Karl Pearson Correlation

There is a negative correlation between new marketing practice & tools and cost to the customer.

Therefore accept H_1

There is Correlation between new marketing practice & tools and cost to the customer.

4.2 SUGGESTIONS

- To know about e-commerce and to apply it in different enterprises brings us a chance to gain a greater share of the global market and increase their efficiency.
- As is shown in present study, e-commerce among many advantages opens an outstanding opportunity for customers to be equipped with not only a powerful information system but also a new form of communication. Hence, to develop e-commerce and to educate buyers to use e-commerce makes it possible for both buyers and sellers to come together in more efficient ways.

4.3 CONCLUSION

The global economy is composed of a large number of SMEs which are the largest employers of many of the citizens in the world. The literature indicating the potential of SMEs to adopt and exploit e-commerce technology is important to be focused in putting programs and incentives in place to encourage greater involvement with e-commerce. In spite of the fact that SMEs in Chennai city are perceived to be advanced in their use of e-commerce in their buying and selling, it is hard to find one enterprise capable of utilizing all different dimensions of e-commerce.

ANNEXURE

i. BIBLIOGRAPHY

Books
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