

IMPACT OF ADVANCED TECHNOLOGY IN PRINTING INDUSTRY

Mr.A.Chella Durai M.Com, M.Phil, PGDCA

Assistant Professor of Commerce, Ayya Nadar Janaki Ammal College, Sivakasi

Mr.S.R.Seenivasan M.Com., M.Phil

Assistant Professor of Commerce, Ayya Nadar Janaki Ammal College, Sivakasi

Introduction

Indian Printing Industry has undergone many revolutionary changes in the past 15 years. India in the year 1990 initiated a process of reforms which aimed at shedding protectionism and embracing liberalization of the economy. Privatization was emerged with the aim of integrating the Indian economy with the world economy. This drastic change in the country's economy opened the doors for the Indian Printing Industry to modernize, by investing in the latest of technology and machinery. For the last 15 years the average compound annual growth rate has been higher than 12%. Post 1990 the trend was to acquire the latest and the best equipment and machines. The figure displays the advanced printing

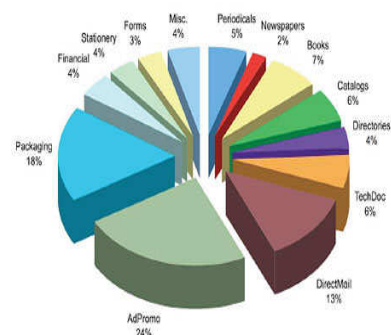


machine. Today the progressive printers are equipped with the latest computer controlled printing machines and flow lines for binding, while the state of the art digital technologies are being used in pre-press. Leading Printing companies have optimized the use of information technology in each and every area of the Printing business. Printers today are equipped at par with the best print production facilities in the world. India is becoming one of the major print producer and manufacturer of printed paper products for the world

markets. The Printing Industry's quality standards have improved dramatically with immense production capacities. Some Printers in the country have won recognition by winning prizes at international competition for excellence in printing.

Total Contribution to the Economy/ Sales

The annual turnover of Indian printing industry is more than Rs.50, 000crores that is USD 11 Billion. Printing jobs are being exported to over 120 countries of the world both developed and developing nations. During 2004-05 the Indian exports of books, printed pamphlets, newspapers & periodicals, job printing and printed materials was estimated to the tune of USD 550 million.



Employment Opportunities

The Printing activity is done with the help of printing technology. Printing process has evolved as a hi-tech proposition. There is an increased and efficient use of computers, lasers and microprocessors which have turned Printing Industry into a multi-disciplinary profession. There are many reputed colleges, universities and institutions offering degree & diploma programs in printing technology. The duration of the full time courses are three years. For a regular diploma, one should have passed 10th standard. There are also short-term certificate courses which offer a comprehensive study of all the aspects of printing. In coming years qualified printing professionals will be in demand. Jobs for printing technologist are usually available in newspapers/magazines, advertising agencies, machine manufacturers, Railway Presses, packaging industries, book printers as well as private commercial press.

Latest Developments

Today the Indian Sub- continent has over 1,30,000 of all types of printing presses all over the country and more than 10 Million family involved in the Print Industry crossing 20 Billion + Turnover and the Per capita consumption of Paper & boards - 4.5 KGs per year. Today the machinery new and second hand, used is predominately from China, England, and France, Germany, Italy, Japan, the Netherland, Switzerland, Spain, Taiwan, USA. Employment created by Indian Printing Industry is Total No. of Printing Presses Turnover Directly 7, 00,000 1, 30,000 20 Billion + Indirectly 4, 50,000 60,000 (offset, sheet fed-web fed).

Review of Literature

Velu Sureshkumar, (2005), in an article entitled “Women Empowerment Success through self-help groups” has pointed out that the formation of SHGs in rural areas has created awareness among women in social and economic aspects. The empowerment of women through SHGs has benefited not only the individual women but also her family and community as a whole.

Mathivannan and selvamumar, (2008), in an article entitled, “Socio-Economic background and Status of Women Entrepreneurs in Small Scale Industries”, have opined that majority of the women belong to category of first generation entrepreneurs and they have surplus income from their business. The government departments and public sector undertaking should be made to consider purchasing their requirement from enterprises owned by women.

Kaewta Rohitratana in his study on “A Tool to Improve Quality of Life” had explained that at present, Beauty Essential Co., Ltd is one of very few companies in Thailand that views the standard as a way to strengthen and differentiate Thai companies from other cheap labour countries as well as a tool to improve the quality of employees’ lives. On one hand, working conditions have to be improved in order to achieve a higher

productivity rate and at the same time the employees will work less hours with less tiredness.

Statement of Problem

From the simple task of recycle the paper to printout for human usage which is main aim of printing. Printing industry plays a vital role in the promotion and the development of economy of sivakasi town. The large number of printing industries in India in general and in sivakasi town particular, is unorganized units and hence the printing industries are mainly employing unskilled or semiskilled workers who are neither educationally qualified nor technically experienced. Sivakasi town provides employment opportunity to the printing workers throughout the year but the uneducated unskilled workers and owner's number is high. Some advanced technologies are available for printing industry. The advanced technology helps to increase the production level and create the many printing workers into unemployment. In this situation the researcher finds it necessary to know the impact of using advanced technology in printing industry at sivakasi.

Scope of the Study

Sivakasi in Virudhunagar District occupies a notable in the industrial map of India, Because of the concentration of the printing, match works and fireworks industry. It is an industrial town and busy business town. People from all over the country come to sivakasi town to have business contact. A number of business people come and stay to do their business here. The researcher makes an attempt to analyze the impact of new technology on printing units at sivakasi.

Objectives of the Study

The following are the objectives of the study.

- To know the origin and growth of printing industry
- To study how the advanced technology is being used in printing industry at sivakasi.
- To analyze the working condition after introducing the new technology in printing industry.

Hypotheses

On the basis of foregoing research objectives, the following hypotheses were developed for the present study.

- There is no significant relationship between Experiences of the workers and Income of the workers.
- There is no significant relationship between Awareness of new technology and Types of new technology.

Methodology

The present study is based on both primary as well as secondary data. The primary data are those data, which are collected from the owners and workers of printing industry in Sivakasi. For that, a separate pre tested schedule was constructed for each category and collected the opinion of the workers about the printing services and their improvement with printing industry. The secondary data are those data, which are already collected by someone else. The researcher has collected the secondary data from the books and research articles such as Indian Journal of Indian printing development and so on. An interview schedule is the guide to an interviewer when conducting a Structured Interview. It has two components: a set of questions designed to be asked exactly as worded and instructions to the interviewer about how to proceed through the questions. The questions appear in the order in which they are to be asked. The questions are designed so they can be administered verbatim, exactly as they are written. The questions need to communicate not only what information is being asked of RESPONDENTS but also the form or the way in which respondents are similarly. The present study has been undertaken from the point of view of the printing workers and owners in Sivakasi. In sivakasi there are 369 printing units. But only 60 units have adopted the advanced technology in the printing process. So the researcher selected all sixty printing units. There are 800 workers who are working in sixty printing units. Among them 10% have been selected randomly.

Table 1.1 Sampling Design

S. No	Under heading	Population	Number of Selected Respondents
1	Workers	800 (10%)	80
2	Owners	60 (100%)	60
Total			140

Statistical Design

The collected data are tabulated and analyzed in a systematic manner. The following statistical tools are used for analysis of data.

- Tabular analysis
- Percentage
- Chi-square test
- Chart wise classification

Profile of the Respondent

S. No	Sex		Marital Status		Literacy level		Nature of house					
	No	%	No	%	No	%	No	%				
1	Male	60	75.0	Married	59	73.8	Literate	72	90.0	Owned	38	47.5
2	Female	20	25.0	Unmarried	21	26.2	Illiterate	8	10.0	Rented	42	52.5
Total		80	100.0		80	100.0		80	100.0		80	100.0

- It is inferred that the 75 per cent workers are male workers in printing industry.
- It is obvious that majority (73.8 per cent) of the printing workers are married.
- It is found that majority of the respondents (90 per cent) are literates.
- It is concluded that 52.5 per cent of the workers are living in rented house.

Hypotheses

There is no significant relationship between awareness of new technology and types of new technology.

Table 1.2 Observed Frequencies (O) Awareness of New Technology and Types of New Technology

Types of Technology	Awareness of New Technology				Total
	CTF	CTP	CTCP	Others	
News paper	3	4	1	1	9
Television	16	11	2	6	35
Relations	1	2	1	8	12
Friends	1	1	0	2	4
Total	21	18	4	17	60

Source: calculated data

Table 1.3 Expected Frequencies (E) Awareness of New Technology and Types of New Technology

Types of technology	Awareness of new technology				Total
	CTF	CTP	CTCP	Others	
News paper	3.15	2.70	0.60	2.55	9
Television	12.25	10.50	2.33	9.92	35
Relations	4.20	3.60	0.80	3.40	12
Friends	1.40	1.20	0.27	1.13	4
Total	21	18	4	17	60

Source: Computed data

Table 1.4 Calculation of Chi-Square Table

S.No	Cell	O	E	(O-E) ²	(O-E) ² /E
1	R ₁ C ₁	3	3.15	0.02	0.00
2	R ₁ C ₂	4	2.70	1.69	0.09
3	R ₁ C ₃	1	0.60	0.16	0.04
4	R ₁ C ₄	1	2.55	2.40	0.14
5	R ₂ C ₁	16	12.25	14.06	0.67
6	R ₂ C ₂	11	10.50	0.25	0.01
7	R ₂ C ₃	2	2.33	0.11	0.03
8	R ₂ C ₄	6	9.92	15.37	0.90
9	R ₃ C ₁	1	4.20	10.24	0.49
10	R ₃ C ₂	2	3.60	2.56	0.14
11	R ₃ C ₃	1	0.80	0.04	0.01
12	R ₃ C ₄	8	3.40	21.16	1.24
13	R ₄ C ₁	1	1.40	0.16	0.01
14	R ₄ C ₂	1	1.20	0.04	0.00
15	R ₄ C ₃	0	0.27	0.07	0.02
16	R ₄ C ₄	2	1.13	0.76	0.04
ΣX²					3.83

Degrees of Freedom = (r-4) (c-4)
 = (4-1) (4-1)
 = 9

Calculated value = 3.83

Table value of χ^2 = 1.14

Since the calculated value is more than the table value (0.05), the hypothesis is accepted. There is no significant relationship between awareness of new technology and types of new technology.

Opinion about New Technology Used in Printing Industry

The researcher has analyzed the owners opinion about new technology used in printing industry with the help of rank.

Table 1.5 Opinion about new technology used in printing industry

Particulars	SA	A	NO	DA	SDA
Reduction of labour problem	20	26	4	2	8
Reduction of Accident	2	24	24	6	4
Increase in productivity	43	10	3	2	2
Better image of the organization	23	14	19	2	2
Attraction of the outside printers towards the concern	27	6	6	6	15

Source: Primary Data

The table 1.5 expresses the score value of scaling techniques of opinion about new technology used in printing industry. The researcher has assigned following weightage points to the respondents' 5 point scale opinion.

Strong Agree - 5 points
 Agree - 4 points
 No opinion - 3 points
 Disagree - 2 points
 Strongly Disagree - 1 point

The correspondent value are multiplied with the weightage points and summed. Finally the sum of obtained and the ranks are assigned.

Suggestions

A detailed analysis of the study on Impact of using Advanced Printing Technology in printing industries has enabled the researcher to offer the following suggestions for the betterment of the situation.

- Majority of the workers working in printing units were not given proper education at advanced level of printing technology. So informal education may be properly arranged in the study units.

- New technology selected owners can form a counseling centre to counsel the owners regarding the problems faced in their business.
- Banks and financial institutions should offer hundred per cent loans without collateral security to the qualified printing owners. Similarly, term loans and working capital loans should be sanctioned liberally on differential terms.
- More publications should be brought out and distributed to new technology users in order to create awareness and encourage them to avail the benefits offered to them. Media should be used to give maximum information for promoting the cause of new technology users.
- Basic computer training may be given to all the printing workers of the new printing technology works.

Conclusion

Over all inference from the investigation is impressive in working conditions, level of wages improvement of the workers and introduction of new technology in the study unit. If the concerned authorities duly implement the above suggestion, development of new technologies of the printing industry may be increased. But the improvement is not in the hands of the management alone. It needs concentrated efforts of owners, workers, financial institution and banks. A workable co-operation among these four groups can alone introduce the new technology in the printing industry.

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Website Links

1. <http://www.uvic.ca/library/research/tips/primavsec/index.php>
2. <http://srmo.sagepub.com/view/the-sage-encyclopedia-of-social-science-research-methods/n451.xml>