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Empowering the Differently-abled as Successful Print Entrepreneurs

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Abstract

With the increasing initiatives taken globally towards making the differently-abled persons employable, several sectors are redefining certain job positions to accommodate them. Taking this further, government organisations and NGOs train them to become entrepreneurs. Several disabled entrepreneurs have made a global mark. Steve Hawkins who is almost disabled owing to a Motor Neuron disease is a scientist. Visually impaired Jim Stovall of UK, an author cum entrepreneur makes movies and TV shows. Kevin Dasilva is a deaf entrepreneur in the marketing business. Entrepreneurial excellence award winners include Mark, an orthopedic, and Rob Smith, a wheelchair user. The Print Industry being a conglomerate requires different skill sets ranging from designing process involving aesthetic skills but sedentary; to binding and packaging which are monotonous but requires mobility. This plethora of skills can match different categories of persons with disabilities. The American Publishing House in the United States, which is more than a century old, is being operated by disabled entrepreneurs. In India, not much emphasis has been given to promote disabled persons as entrepreneurs in the Print sector though the industry is a promising avenue for them. This paper focuses on how printing technology forms a promising sector for the disabled individuals who aspire to become entrepreneurs. The authors map the characteristics of specific classes of disability to specific skills required for the jobs in the Print industry. With this mapping a multi-level, hierarchical business model to empower the disabled persons, specifically women, to become an entrepreneur in specific domains in the Print Industry, is proposed.

Keywords: Entrepreneurship; Disabled Persons; Print Industry

The origin of printing techniques dates back to 3000BC when cylinder seals were used for making impressions on clay tablets. Today, with the adoption of digital technology, the print industry has expanded along several dimensions and is envisaging rapid phenomenal changes. When viewing along the dimension of the workforce, it is apparent that this industry absorbs low-level, unskilled employees on one hand to highly qualified technical administrators / researchers, on the other. In terms of magnitude, this industry constitutes as small as micro-scale enterprises that occupy a front room of many households, to large Multinational Corporations [1, 2, and 3]. Due to the advent of low-cost, convenient-to-use equipments, "At-Home-Print-shop" is becoming a booming business. As a result, even the persons with disabilities are entering into this business.

Other reasons to why entrepreneurs from the disabled community may see the Print Industry as a promising sector are (i) many Print machinery and equipments are disabled-friendly [4], (ii) several training institutes have special units for training disabled persons in tasks specific to the print sector [5], (iii) MNCs in the Print sector are having a separate recruitment drive for the disabled [6], and (iv) industries in the Print Sector are outsourcing their jobs to independent operators [6]. Since, the initiatives

for promoting entrepreneurs in any sector requires efforts and facilities along many dimensions, of which resource availability, orientation and training, and availability of business opportunities are of prime importance; we find that the Print sector facilitates these conditions for the disabled community in a big way. In India, the number of persons with disability is more in the age group 15-59 (i.e., the possible income-generating age), compared to below 15 group and above 60 groups, as indicated in Table 1. With the disabled community constituting more than 2% of the Indian population [7], it is unfortunate that a large percentage of the parents/caretakers of the disabled persons are unaware of the opportunities available for self-employment of their wards.

Table 1. Age-sex Percentage of Disabled Persons in India Courtesy *www.ispub.com* [8]

Type of Disability	Age <15 (children)			Age 15 - 59 (earning member)			Age > 59 (senior citizen)		
	Male	Female	Number	Male	Female	Number	Male	Female	Number
Mental, visual, hearing, speech, locomotor	60%	40%	18724	62.9%	37.1%	47410	50.2%	49.8%	20611

Table 1 shows that the number of disabled women in the earning-member category is half of that of men in the same category. Given that women are no longer confined to home chores but also contribute to the family income by employing; this population of disabled women, ignored by the society, is a significant group to be considered for empowerment. Hence, in this paper we first list-out the productive abilities of disabled persons (Section 2), then show the scope of integrating disabled persons into the print trade by listing tasks in the Print Sector that are suited for specific skill sets possessed by disabled persons (Section 3). In Section 4 we make a survey of the prevailing inclusiveness in the Print Sector, followed by our recommendations for extending the Print Sector to be an inclusive trade for disabled women entrepreneurs with the help of our multi-level, hierarchical business model (Section 5).

Abilities of the Disabled

In this section we project the terminology that identifies disabled persons and bring out the productive skills of disabled persons. The term disability is used to represent body functions (activity limitation) and body structures (participation restriction or impairments). Disability can be (i) Mental (i.e., Mental Retardation, Mental Illness) or (ii) Physical (i.e., Blindness, Low Vision, Hearing Disability, Speech Disability, or Locomotor Disability).

One fortunate aspect is that in spite of their disabilities, each of these individuals, possess the will and necessity to fine-tune some other skill(s) which compensates for their disability. A recent study says that blindness may enhance the other senses [9] and most of us have observed that the blind possess superior tactile and sound discrimination abilities. In the deaf, specific brain regions exhibit distinctive patterns which help them to develop abilities that are finer than the others [10].

Recent technological developments compliment this natural process of amplifying the abilities of the disabled. For instance, ipads are being employed to enhance the talents of blind persons [11]. With long-term use of vibro-tactile aid a deaf person has acquired the skill to lip-read speakers in three languages [12].

The term mental retardation represents a person with combined deficits in both cognitive functioning and adaptive behavior and hence such persons experience limitations in intellectual functioning and in adaptive behavior. Mentally retarded persons are loyal, stay with their jobs and are eager to learn more. They are capable of doing repetitive jobs such as the assembly line tasks. With the right environment and right training it is possible to enrich the motor skills for productive work.

Thus it is possible to tap the creative and industrious capabilities of the disabled persons for productive tasks. It is essential to provide tremendous external support so that their abilities are suitably and meticulously honed for specific tasks, as a result they can very well be a part of the inclusive society and lead a high quality of life in many aspects. Ironically, disabled persons are still considered a burden to the family and to the society, which has a cascading effect of making them introverts. In the next section we classify the skills required for employees in the print sector.

Scope for an Inclusive Print Sector

India has more than 1,30,000 printing presses with more than 10 Million families involved in it. With more than 50 thousand crore turnover, the printing and graphic arts industry is one of India's largest businesses [13]. The operations of the Print sector are generally categorized as prepress, press and post press operations, as shown in Figure 1. This sector includes the printing industries, the packaging industries, the advertising industries, and ink industries, all of them ranging from small cottage industries to large industries. There is wider scope of opportunities for the artistic minds and diligent persons to start up their own business in print sector with minimal level of initial training.

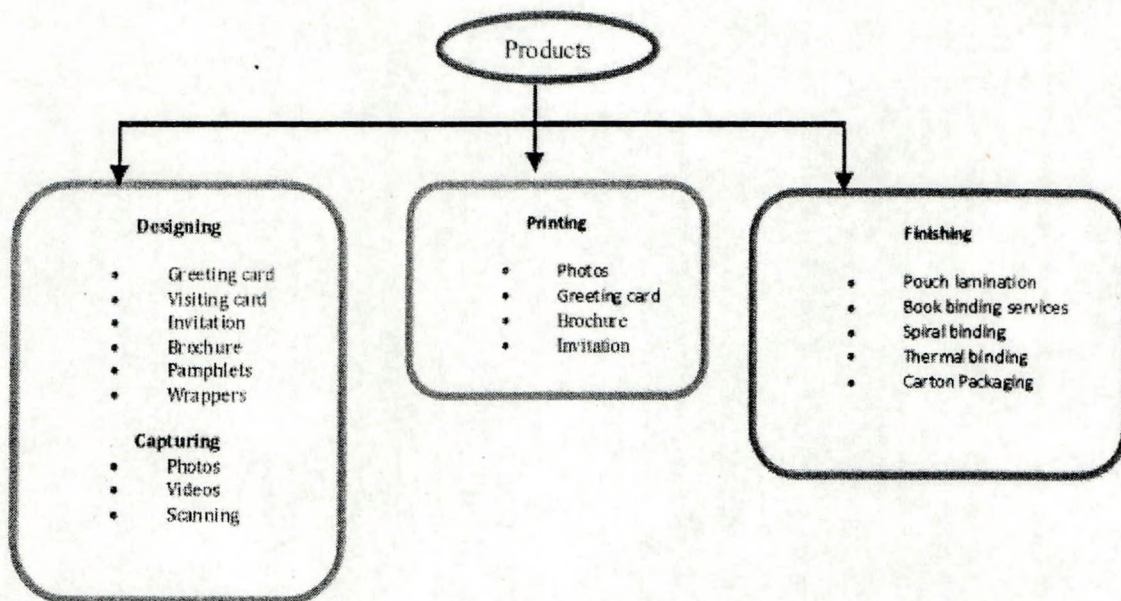


Figure 1. Spectrum of Print services

The type of jobs in this sector, that suites disabled individuals, ranges from low-end, highly monotonous tasks such as binding, splitting, cutting, block printing, etc., to high-end, intelligent tasks, such as creative designing and shop floor administration. We have identified a few job positions in Prepress units. For each of these jobs we have tabulated the nature of these jobs, the skills required (indicated with '*' in Table 2) and the educational qualification required (indicated with '**' in Table 3).

Table 2. Jobs in the Prepress units, their profile and skill requirement

Job Position	Nature of job	Motor skills	Soft skill	Technical	Interpersonal	Leadership
Design assistant	formatting, alignment, pagination	Brain, vision and hands	Task chronology			
Graphic Designer	creating graphics, compiling a complete article	brain, vision, hands	Creativity	*		
Digital Typographer	font design, font choice	brain, hands	creativity, passion	*		
Graphic Design Manager	admin skills, managing a team, identifying and planning graphic projects	mobility, vision, brain, hands	administrative skills	*	*	*
prepress proofer	reading, correcting errors, plate preparation	hands, vision ,brain	Language			
Printer	operate and maintain the printing machine	brain, hands,	Patience and stress free	*	*	
Prepress Technician	color separation, layout, proofing	Brain, vision, hands	Repetitive Pattern identification			
Prepress Packaging Technician	creating & processing graphics files for printed packaging	Brain, vision, hands	willingness to learn new skills			

Table 2 helps to choose a job suitable for a disabled person by comparing the required skills indicated in the table, with those of the disabled individual. For instance, visually impaired persons can opt to become printers or digital typographers; while hearing impaired persons can become designers; and persons whose legs are impaired can choose any task in Prepress. However, persons with mental disability are not suited for these tasks but can be trained for monotonous tasks in other areas, namely, Press and Post-press.

From the educational perspective, Table 3 shows that a certificate course / diploma are an ideal qualification for the prepress tasks. Persons with physical disabilities can equip themselves better with academic certification. Due to space constraints we have limited our survey to the Prepress section in this paper. Our study on Press and Postpress sections reveal the fact that offset machine operations and maintenance which repetitive and monotonous task, is ideal for persons with mental disability. In fact their thinking power and reactions improve within the limited domain and progressively they can become highly skilled.

Inclusiveness in Print Sector

In this section we make a preliminary survey of the integration of disabled persons into the Print industries in India. In our perspective 'employability / self-employability' is an outcome of a combination of skill sets, training, practice, and experience as depicted in Figure 2.

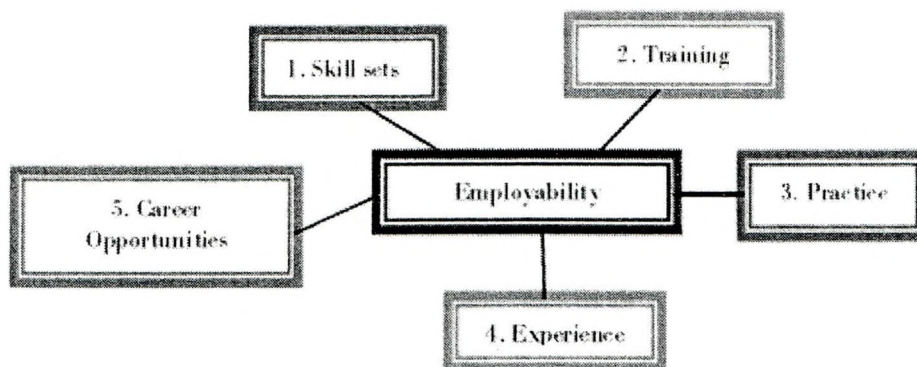


Figure 2. Employability Requirements

In making the Print Sector, an inclusive society, in India, several independent initiatives have been taken along all these five dimensions. There are a few centers that impart skill sets by means of training the disabled persons specifically for the print sector jobs. The Adult Training Centre (ATC) at the Indian Institute of Cerebral Palsy (IICP), Kolkata, has established a printing unit for training persons diagnosed with cerebral palsy [14]. The training provided here includes Silkscreen Printing, Stationary printing, spiral printing, comb binding, paper bag making, photocopying and lamination. Several candidates have been trained and employed at local presses, and industries. Bata India is once such employer which recruited the trained disabled persons for printing artwork on shoes and soles [15].

Trained persons must be certified before they are declared 'employable'. This service is available at the Vocational Rehabilitation Centre for Handicapped (VRCs) under Directorate General of employment and training, Ministry of Labour and Employment. This center evaluates the job capabilities of handicapped persons for the print sector which includes screen printing and photography [16].

After learning the skills it is necessary to practice in order to gain experience. Disabled persons excel in jobs of repetitive nature. Printing presses all over India exploit this talent by including persons with disabilities in their work environment. M. S. Chellamuthu Trust and Research Foundation, Madurai,

Table 3. Sample Jobs in the Print Sector and preferred Educational qualification

Job position	Tasks, to be done	Level 1 -no formal education	Level 2 - basic education	Level 3 - SSLC	Level 4 - +2/diploma/certification	Level 5 - UG degree	Level 6 - PG Degree
Design assistant	formatting, alignment, pagination		*	*	*		
Graphic Designer	creating graphics, compiling a complete article				*	*	
Digital Typographer	font design, font choice				*	*	
Graphic Design Manager	admin skills, managing a team, identifying and planning graphic projects					*	*
Prepress Proofer	reading, correcting errors, plate preparation			*	*	*	
Printer	operate and maintain the printing machine	*	*	*			
Prepress Technician	color separation, layout, proofing			*	*		
Prepress Packaging Technician	creating & processing graphics files for printed packaging			*	*		

Tamil Nadu [17] provide mental health needs to disabled persons. At the foundation's Shakthi Printing Press, a vocational training centre has been set up to rehabilitate the mentally challenged and to integrate them into the society. The centre has trained and placed over 100 persons with mental disabilities in skills such as screen printing, numbering, binding, perforation, paper cutting and offset printing. Now, the beneficiaries who are earning a monthly income between Rs.2,000 and Rs. 6,000, are no more a burden to their family.

In the journey towards betterment, employment must evolve to self-employment. In this line, the 'IICP and Bata effort' has provided an opening to two of the IICP graduates. Along with their mothers these two persons have undergone training in printing skills and have set up an 'at-home' unit that provides insole printing services to Bata. Shri. P. Damu, a commerce graduate in Kerala, who is visually impaired with 75% disability, has set up a photo sales and lamination center. He earns a profitable income that can support his family. The beneficiaries have obtained loan under the scheme of National Handicapped Finance and Development Corporation (NHPHC) to become self-employed [18]. Pondicherry-based Shri S. Soundarassu, a movement impaired person, set-up an offset printing press almost 7 years ago. His income is about 20,000/- per month and has employed four non-disabled persons in his unit. Sri Amit Sudhakar Tapare of Kholapur district and Shri Taiyub Ali of Madhya Pradesh, have also set up their own printing unit under this scheme.

The Disability Division in the Ministry of Social Justice & Empowerment facilitates empowerment of the persons with disabilities [19]. This division supports the disabled in the procurement of economical aids and appliances.

Our simple survey shows that print sector is a promising trade that can uplift the economical and social status of disabled persons. However, we find that in spite of being an attractive means of living, not much disabled women are in this field. Hence in the next Section, we present our recommendations for the upliftment of disabled women by including them in the Print trade.

Extending the Inclusiveness of the Print Trade for Disabled Women

As a first step, let us explore why it is necessary to elevate disabled women in India.

- There are about 47 thousand disabled women in the income-generating age group (Table 1).
- Empowering women is equivalent to empowering the next generation in her family.
- Disabled women's community forms an untapped talent pool.
- There is a national and a global urge to embrace an inclusive society
- Any 'ignored' group of a significant size is a doom on the economical status of the country.
- Normal women are no longer confined to mere house chores, let's help the disabled women to follow suite.

After convincing ourselves that it is essential to empower the disabled women's group, let us take a step towards what is to be done.

- Motivating disable women to come out of their shell
- Initiating the formation of a Community / Association of disabled women
- Arranging Training programmes for these communities.
- Provisioning Apprenticeship facilities
- Identifying financial sources and providing Financial Aid
- Establish contacts and networking the community members to various businesses
- Supporting them in Marketing their products or in obtaining job orders.

For the next step on how we do this, we propose a multi-level, hierarchical business model, which can be supported by any funding agency, government, NGO, private, academic outreach programmes, etc.

Proposed Multilevel, Hierarchical Model

Our hierarchical model, as shown in Figure 3, consists of small self-help groups of disabled women who register under a nodal center with a coordinator. Each of these groups (i.e., nodes in our model), receive support from the nodal center. Many nodal centers may join into a cluster with a cluster head. A node is formed when a group of disabled women starts a business in the Print Sector. To start a business they have to undergo the 'employability requirements' indicated earlier in Figure 2.

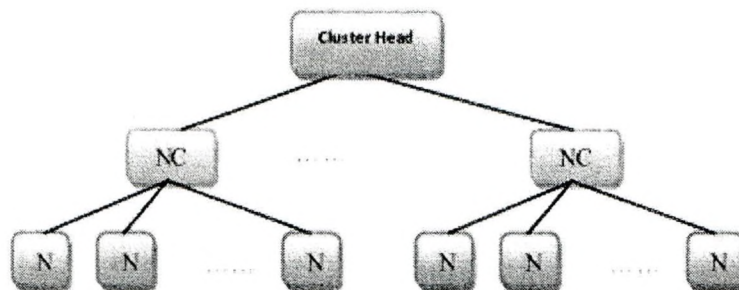


Figure 3. Hierarchical aspect of the Proposed Model (NC-Nodal Center, N-Node)

The multi-level feature of our model arises from the fact that each node can set up businesses at levels 1, 2 or 3. Level 1 (known as *Kick-start* level), is for persons who have no experience and hence depend totally on the Nodal Center for all aspects of support for a business, starting from identifying a suitable area, training, upto setting up and running the business. The business at this level may either be a (i) *stand-alone* one or (ii) *dependent* one. A Stand-alone business would be handed over to the Node members after the initial start-off period whereas a Dependent business would be supported by the Nodal Center even after being established. This is particularly suitable for persons who do have other mean of supports, such as from family or community.

Level 2 (known as *Recognition* level) is for persons who have had a basic education but are not well-versed in starting a business of their own. They are self-motivated and may even have a business idea in hand but depend on the Nodal center only for entrepreneurship training and guidance. Level 3 (known as *Successful* Level) is for persons with higher education and/or with sufficient experience in a specific business. They may depend on the Nodal Center for establishing a significantly larger business and may need to collaborate across clusters. A *Business Idea* along with the employability requirements discussed earlier and illustrated in Figure 2, make up the *Business Startup* requirements. These requirements for each of the three levels in our multi-level model are tabulated in Table 4.

Our model has been designed specifically for disabled women to uplift them and to bring them into the mainstream. The benefits of our model are:

- It paves way for a wide range of business startups ranging from non-aspirants to the aspirants
- Supports a wide range of Business granularity
- Persons with/without other means of support can participate (i.e., Stand-alone vs Dependent)
- Sustained support provision (eg., for Dependent Model)
- Allows space for any organization to take the role of the Nodal Center / Cluster Head (Govt., NGO, academic outreach programmes, industry's community programmes, etc.)

Table 4. Business Startup Requirements of the Multiple Levels in the Proposed Model

Business startup Requirements	Level 1 Kick-start level	Level 2 Recognition level	Level 3 Successful Level
Business Idea	Do not possess; need to even be motivated to start a business	May have	Definitely has
Skill sets	Nodal Center must identify the skill sets of the individual	Are aware of their strengths and weaknesses	They are specialists
Training	Require intensive holistic training (i.e., on skill development, entrepreneurship and finance)	May need training in entrepreneurship and financial aspects	May need training for expanding the business or setting up a large scale business
Practice / Apprenticeship	Supervised practice sessions / apprenticeship is essential	Advanced practices / apprenticeship are	Professional level practice / apprenticeship is essential
Experience	Mandatory for Stand-alone Model and Optional for Dependent Model	Optional	Optional

Conclusions

In this paper we have made an attempt to contribute to the less fortunate community, namely the disabled women's community in India. In this process we have first picked out the positive skills inherent to the disabled persons and the skill that they can acquire through training and practice. We have, then, tabulated the skills required for jobs in the Print sector and mapped them onto the skill sets of the disabled. While exploring the present state of employment of the disabled in the Indian Print Industry, we found that the lacuna - disabled women have not risen economically. Targeting this lacuna, we have presented our multi-level, a hierarchical business model that can uplift Indian disabled women under a wide range of parameters. In the near future, we propose to implement Level 1 of this model with a Nodal Center under academic institutions through our outreach programmes.

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Website of Disability Division in the Ministry of Social Justice & Empowerment: www.socialjustice.nic.in

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