

прикладом є чорна фарба, для виготовлення якої використовують як пігмент технічний вуглець (сажу) з коефіцієнтом поглинання 95–97 %. Особливістю цього пігменту є висока стійкість до дії води, кислоти, лугу та інших розчинників. Встановлено, що особливість отримання імітації поглинаючої поверхні відбувається за рахунок переходу променів світла з різних середовищ, а отже й змінюється швидкість світла. Різниця коефіцієнтів заломлення пігменту змінює світлові промені заломлення. Отже, чим вища міра дисперсності пігменту, тим більша кількість променів світла відіб'ється від поверхні. Забарвлення пігментів виникає завдяки вибіркового поглинанню кристалічною решіткою пігменту хвиль тієї чи іншої довжини. У результаті пігмент здається забарвленим у колір, який доповнює поглинений. Згідно аналізу, найбільш поглинаючими пігментами є синтетичні. З них найчастіше використовують: пігмент блакитний фталоціаніновий, пігмент зелений, мілорі — це певна суміш фероціанідів заліза й калію, та металеві пігменти — грубодисперсні порошки, які одержують подрібненням металів або сплавів.



Для захисту виробів від підробки та з метою формування декоративного ефекту використовують термохромні пігменти, що змінюють свій колір під дією різкої зміни температур. В основі виробництва термохромних пігментів лежить технологія рідких кристалів. Завдяки тому, що рідкі кристали зберігаються в оболонці капсул, що є поверхнею поділу фарбової системи, термохромну фарбу допустимо використовувати з іншими лакофарбовими матеріалами, наприклад, з прозорим лаком, акриловою фарбою тощо.

Зазначені в класифікації природні фарбуючі речовини мінерального, тваринного, рослинного походження переважно відносяться до барників, які є розчинними та не зберігають стійкості до світла тривалий час, проте можуть бути використані для екологічно чистих фарб.

V. ЕКОНОМІКА ТА ОРГАНІЗАЦІЯ ВИДАВНИЧО-ПОЛІГРАФІЧНОЇ СПРАВИ

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A BUSINESS MODEL FOR EARLY-STAGE MICRO-LEVEL PRINT ENTERPRISE FOR RURAL INDIAN WOMEN

Print industry is one of the oldest trades in human evolution and women empowerment is a perennial issue being addressed for a long time. Women and Print are a good pair in the sense that the creativity, aesthetics and innovation required for excellence in printing, are inherent traits in women. Women in rural India are known for handicrafts and cottage industries but the turnaround time is long. Many printing jobs are characterized by simple and few tasks that consume less time. This paper proposes a business model for such print jobs specifically suited for rural women in India.



Women have several challenges to take up both job and family responsibilities. Village Indian women house responsibilities are taking care of their sibling/children, daily cooking, cleaning, and agriculture. However, more women have become economically independent by forming self-help groups and starting a business. Indian government and many Non-government organisations provide women entrepreneurs with several funding/training schemes. This paper takes advantage of the immense scope available for entrepreneurship for rural women in print sector. A model is proposed and a case study business based on the proposed model is described.

The Economic Times [1] reports that 80 % of Indian women workforce resides in rural India and therefore the 2020 Union Budget is framing policies in this regard. Entrepreneurship [2] or self-employment is one of the quick solutions to empower rural women without drastically affecting their house-hold routine, from which most of them cannot get away.

The print industry is rich in skill-oriented operations [3]. Many of these skills can be acquired by women by visual inspection or by undergoing a small training programme. This industry is favorable for Persons with disabilities too [4]. Women with a certain level of literacy can become print consultants [5]. Those with societal and environmental concerns can look for such opportunities in print sector [6].

This paper proposes a simple business model for rural women who cannot forgo their household commitment and go outside home to seek a job. Based on this early-stage micro-level enterprise model, one specific business, namely greeting card-making business, is described.

The business model canvas [7] for the proposed Early-stage micro-level enterprise, for rural women in India, is presented here (fig. 1).



Proposed Business Model Canvas
for Early-stage Micro-level Print Enterprise

Key Partners either self only or family members	Key Activities full business cycle	Value Propositions product from cottage industries are in demand; numerous agencies, in government and non-government sectors support women entrepreneurs and cottage industries	Customer Relationships either direct or through agencies	Customer Segments children and students in urban locality, fancy stores and handicraft outlets
	Key Resources skill set and handworking capacity are the strengths. Other resources must be available within reach		Channels either direct marketing or through agencies	
Cost Structure investment of about Rs.15,000/- (Appx. 210USD)		Revenue Streams each stage of the production cycle can separately generate revenue apart from the product as a whole		

Fig. 1. Proposed Business Model Canvas

The proposed model was designed with the fact that the target women category do not possess the 5Ms in business: man, money, material, machinery, and method.

Elements of the proposed Business Model Canvas:

1. Key partners: either self only or family members.
2. Key activities: full business cycle.
3. Key resources: skill set and hardworking capacity are the strengths. Other resources must be available within reach.
4. Value Propositions: products from cottage industries are in demand; numerous agencies, in government and non-government sectors support women entrepreneurs and cottage industries [8].
5. Customer Relationships: direct or through agencies.
6. Channels: either direct marketing or through agencies.
7. Customer Segments: children and students in urban locality, fancy stores and handicraft outlets.
8. Cost structure: investment of about Rs. 15,000/- (Appx. 210 USD).
9. Revenue streams: each stage of the production cycle can separately generate revenue apart from the product as a whole.



Small and attractive greeting cards in aesthetic envelopes is in vogue for multiple purposes — greetings, dangles in bags & pouches, gifting, party decors, kids school projects, etc. Customer look for variety in these items and therefore bulk production is not economical solution. Customization and personalization are essential and therefore the production is short-run jobs.

Such short-run jobs require less raw material and production time can be minimised if simple low-energy/low-cost machinery are used, than compared to doing the tasks manually.

Product description:

- Card: small custom sized (smaller than A5) cards of 150–300 gsm; printing: screen print or hand painted;
- envelope: 80–120 gsm; printing: screen or hand print; finishing: manual gluing; cutting: die-cut.

5Ms for Greeting Card Business:

- Man: self or family members during initial stage.
- Material: paperboard and paper, screen ink, screen printing chemicals, glue.
- Machinery: manual screen printing, manual die-cut with die and creasing machine (computer & printer can be used on hourly basis initially).
- Money: machinery (Rs. 10,000/-), material (Rs. 5,000/-).
- Methods: can undergo a one-week training to understand screen printing and the use of the machines.

Significance of the proposed business:

- Initially, this process will require a low investment of about Rs. 15,000/-.
- It is a perennial and evergreen business.
- Being a micro level business, if carefully carried-out, the breakeven point can be 6 months.
- In the mean time new funds can be generated by fund rotation and working capital.
- This is more artistic and can be easily mastered by rural women who have a passion.

The figures 2 and 3 indicate the stages in the making of cards and envelopes. Materials are selected and cut to required size. The designs are made in computer and screen printed on the cards/envelope.

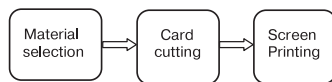


Fig. 2. Card making process

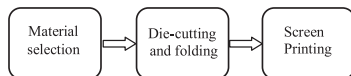


Fig. 3. Envelope making process

Materials are selected and the designs are designed in computer and printed using Screen Printing Unit, the printed envelopes are die-cut using table top die-cutter for the requirement and creased using Creasing table top Machine and glued for the final form.

Fig. 4 shows pictures of our trials through the entire process with low-cost low-energy machines available in our department.

The greeting cards can be further enhanced with different value additions, one of which is Printed Electronics. Our experience in this latest technology in making New Year cards is interesting. We have been able to make screen printed circuits using conductive inks. Figure 5 shows our New year card with the LEDs ON and OFF states.

This paper presents a business model for rural women in India who have their household chores as priority but are in need of a promising income. The model presented here is for early-stage business in Print sector with very less income and with hand-holding from existing agencies that encourage women entrepreneurship in India. The paper



Screen Printing



Creasing



Die-cutting



Envelopes

Fig. 4. Pictures of our trials in these tasks



Fig. 5. Printed Electronics Greeting Cards

also proposed the details of one business under this model, namely greeting card making, since small aesthetic cards are in vogue among millennium kids and hence good scope for the proposed case study business.

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ОРГАНІЗАЦІЙНІ ЗМІНИ ТА ЇХ ЗНАЧЕННЯ В СУЧАСНОМУ СВІТІ

The value of organizational change in the modern world, their causes. The impact of change on the organization and what changes entail.

За сучасних умов виживання на ринку кожна організація потребує змін. Вона знаходиться в динаміці та рухається в напрямку зростання або ж спаду. Усі компанії спрямовані на успішний розвиток, а отже, їх місією є рух тільки в позитивному напрямку. Важливим аспектом здійснення змін є пристосування організації до мінливих внутрішніх і зовнішніх чинників середовища. Це необхідно для того, аби стати конкурентоспроможним підприємством і розширитись на ринку. Ми визначаємо організаційні зміни як дії, які повинні бути прийняті керівництвом з метою кращого реагування на соціально-економічне середовище, через модифікацію структур, поведінки та процесів, спрямованих на розвиток і просування організації.

