# No. DST/SEED/SCSP/STI/2019/106-G(2)

Government of India
Department of Science and Technology
SEED Division

Technology Bhavan New Mehrauli Road New Delhi – 110 016.

Dated: 18th October 2021

#### ORDER

Sub: Financial assistance for the project titled "Creating a digitally enabled social knowledge management platform for rural SC community to bridge rural-urban knowledge, information and market divide" under guidance of Prof. Somprakash Bandyopadhyay. Management Information System Group, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104— release of second installment (General) regarding.

In continuation of this Department's sanction order even number dated 13.03.2020, sanction of the President is conveyed to the payment of Rs. 11,00,000/- (Rupees Eleven Lakh Only) to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104 with (IIM, Kolkatta share of Rs. 5,50,000/- and HIT, Kolkatta share of Rs. 5,50,000/-) being the second installment under "General component" grant for implementation of the said project during 2021-22.

- 1. It is also certified that Utilization Certificate for the earlier grants released for this project have been received and sent to PAO.
- 2. Permission is also granted for carry forward balance of Rs. 2,56,261/- from My General component 2020-21 to 2021-22.
- 4. The expenditure involved will be debitable to Demand No. 88, Department of Science & Technology for the year 2021-22:

3425 : Other Scientific Research (Major Head)

60. : Others: (Sub-Major Head)
789 : Scheduled Castes Component

15 : Innovation, Technology Development and Deployment

15.00.31 : Grants-in-aid General for the year 2021-22 (Previous: SEED-SCSP-3425.60.789.01.01.31)

5. The amount of Rs. 11,00,000/- (Rupees Eleven Lakh Only) will be drawn by the Drawing and Disbursing Officer, DST and will disbursed to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104, through their bank account details given below:

Name of the Account holder/ organization name	Indian Calcutta	Institute	of	Management	
Saving Bank Account Number	39174912	487			
Name of Bank and Branch	State IIM Joka	Bank Branch (Kolk	of	11101100	
IFSC Code	SBIN0006210				
MICR code,	700002130				

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- 6. Sanction of grant will be subject to the condition as detailed in Annexure and the following special conditions:
  - a. "All banners, boards, manuals, reports etc. will carry the credit as 'Catalysed & supported by "SEED Division, Dept. of Science & Technology New Delhi."
- 7. The accounts of the grantee institution will be open to inspection by the Sanctioning Authority/Audit whenever the institute is called upon to do so.
- The institute will furnish to the DST, Utilization Certificate and an audited Statement of Accounts pertaining to the grant immediately after the end of each financial year and upload the same in the website of Public Financial Management system (PFMS).
- Sanction of grant is subject to the condition that various items of equipment are purchased as per provisions of GFR, 2005, and related instructions issued by the Government from time to time.
- 10. The grantee organization will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account. For grants released during F.Y. 2017-18 and onwards, all interests and other earnings, against released grant shall be remitted to Consolidated Fund of India (through Non-Tax Receipt Portal (NTRP), i.e., www.Bharatkosh.gov.in), immediately after finalization of accounts, as it shall not be adjusted towards future release of grant. A certificate to this effect shall have to be submitted along with Statement of Expenditure/Utilization Certificate for considering subsequent release of grant/closure of project accounts. GI should also follow Rule 230 (17) of GFR-2017 concerning reservation of SC/ST/OBC, if applicable.
- 11. The grant sanctioned/ released is for the specific project sanctioned and portion of the grant, which the grantee fails to utilize for the purpose for which the grant is sanctioned will be recovered along with the penal interest of 10% per annum.
- 12. In the event of the grantee failing to comply with the conditions or committing breach of the conditions of the bond, the authorized signatories to the bond and all the members of the Executive Committee shall be jointly and severally liable to refund to the President of India, the whole or a part amount of the grant with interest of 10% per annum thereon or the sum specified in the bond.
- 13. The release of grant is in accordance with the OM No.7(1) E.Coord/2012 dated 14<sup>th</sup> November, 2012 issued by Ministry of Finance, Department of Expenditure and as declared by the Organization/Principal Investigator.
- 14. As per Rule 234 of GFR 2017, this sanction has been entered at S. No. 25 in the register of grants maintained in the Division for the scheme SEED Division (Scheduled Caste Sub Plan scheme).
- 15. This issues with the concurrence of IFD vide their Concurrence Diary No. C/2690/IFD/2021-22 dated 13.10.21.
- 16. The aforesaid concurrence is subject to the stipulation that continuation beyond 30.09.2021 will be subject to appraisal and approval of the continuation of the Schemes under which this project is funded as approved by DoE's vide their O.M. No. 42(02)/PF-II/2014 dated 10.06.2021.
- 17. As per rule 149 of GFR, the Goods (consumables/equipment) available in GeM portal are to be procured mandatorily online through GeM only and PI will also follow DoE's guidelines for incurring expenditure under the different sub-head.

18. Grantee Institution will start using EAT module and next release will be made only after mapping and following EAT modules.

((Rajni Rawat) Scientist-C/011- 26590669

To,

The Pay and Accounts Officer Department of Science and Technology New Delhi.

Copy for information and necessary order to:

- 1. Cash Section (3 copies) for making the payment to the grantee.
- 2. Account Section.
- 3. Director of Audit, (Scientific Deptt), AGCR Building, New Delhi 110 002.
- 4. Office copy.
- 5. Sanction folder.
- 6. Head (SEED).
- 7. Registrar, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata-700 104.
- 8. Prof. Somprakash Bandyopadhyay, Management Information System Group, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata-700 104.
- 9. Head, Heritage Institute of Technology(HIT), Chowbaga Road, Anandapur, East Kolkata Township, Kolkata-700 107.

(Rajni Rawat) Scientist-C/011- 26590669

## F.No. DST/SEED/SCSP/STI/2019/106 (G)

Government of India Ministry of Science & Technology Department of Science & Technology (SEED Division)

> Technology Bhavan, New Delhi Dated, the 13th March, 2020

## ORDER

Sub:- Financial Assistance for the project titled "Creating a digitally enabled social knowledge management platform for rural SC community to bridge rural-urban knowledge, information and market divide" under the Guidance of Prof. Somprakash Bandyopadhyay, Management Information System Group, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104- release of first General installment reg.

Sanction of the President is hereby accorded to the implementation of the above mentioned project at a total cost of Rs. 29,76,116/- (Rupees Twenty nine Lakh Seventy six Thousand one hundred sixteen only) to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104, for a duration of two years. With the following bifurcation:

Name of Host Institute	Total cost of project	Fund under Capital	Fund under General	Initial release		
		Capital	General	Total	Capital	General
IIT, Kolkatta	14,94,276/-	2,95,974/-	11,98,302/-	8,73,495/-	2,95,974/-	5,77,521/-
HIT, Kolkatta	14,81,840/-	93,400/-	13,88,840/-	7,87,620/-	93,400/-	6,94,220/-
Grand Total	29,76,116/-			16,61,115/-		

#### **Budget Summary**

Budget Head	I Year (₹)	II Year (₹)	Total (₹)
1) MANPOWER			
For IIM Kolkata:			
(a) Project Assistant (1 nos.) @ Rs. 22,000/- per month.	2,64,000/-	2,64,000/-	5,28,000/-
(b) Field Worker (1 nos.) @ Rs. 15,000/- per month.	1,80,000/-	1,80,000/-	3,60,000/-
For HIT Kolkata:			
(a) ICT Expert (1 nos.) @ Rs. 30,000/- who will work as Senior software developer.	3,60,000/-	3,60,000/-	7,20,000/-
(b) Project Assistant (1 nos.) @ Rs. 22,000/- who will work as Junior software developer.	2,64,000/-	2,64,000/-	5,28,000/-
Sub-Total	10,68,000/-	10,68,000/-	21,36,000/-
2) CONSUMABLES			
No amount is quoted by the P.I under this head.	Nil	Nil	Nil

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3) TRAVEL				
For IIM Kolkata:				
(a) Project activity	50,000/-	50,000/-	1,00,000/-	
(b) Field activities		1	1,00,000	
(c) DST review meetings				
For HIT Kolkata:				
(a) Project activity	50,000/-	50,000/-	1,00,000/-	
(b) Field activities		201000	1,00,000/-	
(c) DST review meetings				
Sub-Total	1,00,000/-	1,00,000/-	2,00,000/-	
4) FIELD TESTING/DEMO.	TRAININGS	127227040	2,00,000/-	
For IIM Kolkata:				
(a) Community training and mobilization expenses	40,000/-	80,000/-	1,20,000/-	
5) CONTINGENCY (@ 3%, 'Equipment' head to be consider	(The amount quo	ted for internet and	stationaries unde	
For IIM Kolkata:	16,020/-	17,220/-	33,240/-	
For HIT Kolkata:	20,220/-	20,220/-	40,440/-	
Sub-Total	36,240/-	37,440/-	73.680/-	
6) OVERHEADS (@ 5%)			1 (32)	
For IIM Kolkata:	27,501/-	29,561/-	57,062/-	
Sub-Sub-Total			213772	
For IIM Kolkata:	5,77,521/-	6,20,781/-	11,98,302/-	
or HIT Kolkata:	6,94,220/-	6,94,220/-	13,88,440/-	
Sub-Total (A)				

B. CAPITAL COMPONENT

	I Year (₹)	II Year (₹)	Total (₹)
1) EQUIPMENT			(1)
For IIM Kolkata:			
(a) Desktop P.C (3 nos.) @ Rs. 32,214/- per unit.	96,642/- (including 18% GST)	-	96,642/-
(b) Large T.V (3 nos.) @ Rs. 18,500/- per unit.	55,500/- (including 28% GST)		55,500/-
(c) Printer (1 nos.) @ Rs. 8,968/-	8,968/- (including 18% GST)	-	8,968/-
(d) Wi-Fi Router (3 nos.) @ Rs. 1,888/- per unit.	5,664/- (including 18% GST)		5,664/-
(e) 8" Samsung tablet (6 nos.)  @ Rs. 11,000/- per unit.	66,000/- (including 18% GST)	14	66,000/-
(f) Smart phone (3 nos.) @ Rs. 11,000/- per unit.	33,000/- (including GST)	*	33,000/-
(g) Laptop (1 nos.) (a) Rs. 30,200/-	30,200/- (including GST)	*	30,200/-
Sub-Sub-Total For HIT Kolkata:	2,95,974/-	2	2,95,974/-



(a) Smart phone (3 nos.)  @ Rs. 11,000/- per unit.	33,000/-		
(b) Laptop (2 nos.)	(including GST)		33,000/-
@ Rs. 30,200/- per unit.	60,400/-		
Sub-Sub-Total	(including GST)		60,400/-
ub-Total (D)	93,400/-		
Sub-Total (B)	3,89,374/-	-	93,400/-
	1 1 1 1 1 1	-	3,89,374/-

Grand Total & Trans	I Year (₹)	II Year	Total
Grand Total for HIT Kolkata Grand Total for HIT Kolkata	1-31-23112-31-	6,20,781/-	(₹)
Grand Total (A+B)	3-110-07-	6,94,220/-	14,94,276/-
2. Sanction of the Penside	16,61,115/-	13,15,001/-	14,81,840/- 29,76,116/-

- 2. Sanction of the President is also accorded to the payment of Rs.12,71,741/-(Rupees Twelve lakh Seventy one thousand Seven hundred forty one only) to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104, with IIM Kolkatta shar of Rs. 5,77,521/- and HIT, Kolkatta share of Rs. 6,94,220/being the first installment of grant under general component head for implementation of the said project.
- 3. This sanction is subject to the condition that the grantee organisation will furnish to the Department of Science & Technology, financial year wise Utilization Certificate (UC) in the proforma prescribed as per GFR 2017 and audited statement of expenditure (SE) along with up to date progress report at the end of each financial year This is also subject to the condition of submission of the final statement of expenditure, utilization certificate and project completion report within one year from the scheduled date of completion of the project.
- 4. The grantee organisation will have to enter & upload the Utilization Certificate in the PFMS portal besides sending it in physical form to this Division. The subsequent/final instalment will be released only after confirmation of the acceptance of the UC by the Division and entry of previous Utilization Certificate in the PFMS.
- If the grant has been released under capital head through separate sanction order under the same project for purchase of equipment(s), separate SE/UC has to be furnished for the released Capital head grant.
- 6. The grant-in-aid being released is subject to the condition that
- a. transparent procurement procedure in line with the Provisions of General Financial Rules 2017 will be followed by the Institute/Organisation under the appropriate rules of the grantee organisation while procuring capital assets sanctioned for the above mentioned project and a certificate to this effect will be submitted by the Grantee organisation immediately on receipt of the grant:
- b. While submitting Utilisation Certificate/Statement of Expenditure, the organisation has to ensure submission of supporting documentary evidences with regard to purchase of equipment/capital assets as per the provisions of GFR 2017. Subsequent release of grants under the project shall be considered only on receipt of the said documents.
- 7. The grantee organization will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account. For Grants released during F.Y. 2017-18 and onwards, all interests and other earnings, against released Grant shall be remitted to Consolidated Fund of India (through Non-Tax

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Receipt Portal (NTRP), i.e., www.Bharatkosh.gov,in), immediately after finalization of accounts, as it shall not be adjusted towards future release of grant. A certificate to this effect shall have to be submitted along with Statement of Expenditure/Utilization Certificate for considering subsequent release of grant/closure of project accounts. GI should also follow Rule 230(17) of GFR-2017 concerning reservation of SC/ST/OBC, if applicable.

- 8. DST reserves sole rights on the assets created out of grants. Assets acquired wholly or substantially out of government grants (except those declared as obsolete and unserviceable or condemned in accordance with the procedure laid down in GFR 2017), shall not be disposed of without obtaining the prior approval of DST.
- 9. In case the scheme provides for payment of honorarium / remuneration / fellowship / scholarship to the PI,a para may suitably be incorporated in the DSO to the effect that "PI is not drawing any emoluments/ salary/fellowship from any other project either supported by DST or by any other funding agency.
- 10. The account of the grantee organisation shall be open to inspection by the sanctioning authority and audit (both by C&AG of India and Internal Audit by the Principal Accounts Office of the DST), whenever the organisation is called upon to do so, as laid down under Rule 236(1) of General Financial Rules 2017.
- 11. Due acknowledgement of technical support / financial assistance resulting from this project grant should mandatorily be highlighted by the grantee organisation in bold letters in all publications / media releases as well as in the opening paragraphs of their Annual Reports during and after the completion of the project.
- 12. Failure to comply with the terms and conditions of the Bond will entail full refund with interest in terms of Rule 231 (2) of GFR 2017.
- 13. The expenditure involved is debitable to Demand No.86. Department of Science & Technology for the year 2019-20:

3425 : Other Scientific Research (Major Head)

60. : Others: (Sub-Major Head)
789 : Scheduled Castes Component

15 : Innovation, Technology Development and Deployment

15.00.31 : Grants-in-aid General for the year 2019-20

(Previous: SEED-SCSP-3425.60.789,01.01.31)

14. The amount of Rs. 12,71,741/-(Rupees Twelve lakh Seventy one thousand Seven hundred forty one only) will be drawn by the Drawing and Disbursing Officer, DST and will be disbursed to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104. The bank details for electronic transfer of funds through RTGS are given below:-

i)	Name of Account Holder	Indian Institute of Management Calcutta
ii)	Name of the Bank & Branch	State Bank of India, IIM Joka Branch (Kolkata - 700104)
iii)	Bank Account Number	39174912487
iv)	IFSC code	SBIN0006210
vi)	MICR Code	700002130

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- 15. As per rule 149 of GFR, the procurement of Goods & Services is mandatory for Goods and/or Services available on GeM and the same may be followed as far as possible.
- 16. As per Rule 234 of GFR 2017, this sanction has been entered at S. No. 55 in the register of grants maintained in the Division for the scheme SEED Division (Scheduled Caste Sub Plan).
- 17. This issues with the concurrence of IFD Vide their Concurrence Dy.No.C/6243 /IFD/2019-20 dated the 13.3.20.

18. It is mandatory to use EAT module in PFMS since 15.6.18, failing which no further funds shall be released.

(Konga Gopikrishna) Scientist – E/011-26590298

To

The Pay and Accounts Officer,

Department of Science & Technology,

New Delhi.

Copy for information and necessary action to:-

- 1. Cash Section (3 copies) for making the payment to the grantee, Account Section
- 2. Director of Audit, (Scientific Deptt.) AGCR Building, New Delhi 110 002.
- Registrar, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104
- Prof. Somprakash Bandyopadhyay, Management Information System Group, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata-700 104
- Head, Heritage Institute of Technology(HIT), Chowbaga Road, Anandapur, East Kolkata Township, Kolkata-700 107
- 6. Head(SEED)

7. Office copy

(Konga Gopikrishna) Scientist –E/011-26590298

# F.No. DST/SEED/SCSP/STI/2019/106 (C)

Government of India Ministry of Science & Technology Department of Science & Technology (SEED Division)

Technology Bhavan, New Delhi Dated, the 13th March, 2020

ORDER Financial Assistance for the project titled "Creating a digitally enabled social knowledge management platform for rural SC community to bridge rural-urban knowledge, information and market divide" under the Guidance of Prof. Somprakash Bandyopadhyay, Management Information System Group, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104-release of first

In continuation to this Department's sanction order of even number dated 13th March,2020, Sanction of the President is accorded to the release of an amount Rs. 3,89,374/- (Rupees Three lakh eighty nine thousand three hundred seventy four only) to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104, for purchase of equipment under "creation of capital assets". The organization should utilize the released funds for procurement of equipments during the first year for implementation of the said project or else it has to be deposited back in Government accounts. The details of the equipment to be procured are given below:

CAPITAL COMPONENT

1) EQUIPMENT	I Year (₹)	Va: (₹	ar (₹)
For IIM Kolkata:			
(a) Desktop P.C (3 nos.) @ Rs. 32,214 per unit (b) Large T.V (3 nos.) @ Rs. 18 500/	(mendulis 10%)		96,642/-
(c) Printer (1 nos.) @ Rs. 8,968/-	(31)	-	55,500/-
(d) Wi-Fi Router (3 nos.) @ Rs. 1,888/	8,968/- (including 18% GST)	4	8,968/-
per unit (e) 8" Samsung tablet (6 nos.)@ Rs. 11 000/ page unit	GST)	-	5,664/-
-1,000/- per unit	66,000/- (including 18% GST)	-	66,000/-
(f) Smart phone (3 nos.) @ Rs. 11,000/- per unit.	33,000/- (including GST)	141	33,000/-
(g) Laptop (1 nos.)@ Rs. 30,200/- Sub-Sub-Total	30,200/- (including GST)		
or HIT Kolkata:	2,95,974/-		30,200/-
a) Smart phone (3 nos.) @ Ps. 11 000	33 000/ /:1 1:		2,95,974/-
- unit	(mending OS1)	-	33,000/-
b) Laptop (2 nos.) @ Rs. 30,200/- per nit	60,400/- (including GST)	41	60,400/-
ub-Sub-Total	02 400/		31.00
ub-Total (B)	93,400/-	-	93,400/-
	3,89,374/-	-	3,89,374/-

The expenditure involved will be debitable to Demand No.86, Department of Science & Technology for the year 2019-20:

3425 : Other Scientific Research (Major Head)

60. : Others: (Sub-Major Head) 789 : Scheduled Castes Component

15 : Innovation, Technology Development and Deployment
 15.00.35 : Grants for creation of capital assets for the year 2019-20

(Previous: SEED-SCSP-3425.60,789.01.01.35)

3. This amount of Rs. 3,89,374/- (Rupees Three lakh eighty nine thousand three hundred seventy four only) will be drawn by the Drawing and Disbursing Officer, DST and disbursed to Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104. The bank details for electronic transfer of funds through RTGS are given below:-

i)	Name of Account Holder	Indian Institute of Management Calcutta
ii)	Name of the Bank & Branch	State Bank of India, IIM Joka Branch (Kolkata - 700104)
iii)	Bank Account Number	39174912487
iv)	IFSC code	SBIN0006210
vi)	MICR Code	700002130

4. As per rule 149 of GFR, the procurement of Goods & Services is mandatory for Goods and/or Services available on GeM and the same may be followed as far as possible.

5. As per Rule 234 of GFR 2017, this sanction has been entered at S. No. 56 in the register of grants maintained in the Division for the scheme SEED Division

(Scheduled Caste Sub Plan).

 This issues with the concurrence of IFD Vide their Concurrence Dy, No.C/6244 /IFD/2019-20 dated the 13<sup>th</sup> March 2020 .

7. The grantee organization will maintain separate audited account for the project and the entire amount of grant will be kept in an interest bearing bank account. For Grants released during F.Y. 2017-18 and onwards, all interests and other earnings, against released Grant shall be remitted to Consolidated Fund of India (through Non-Tax Receipt Portal (NTRP), i.e., www.Bharatkosh.gov.in), immediately after finalization of accounts, as it shall not be adjusted towards future release of grant. A certificate to this effect shall have to be submitted along with Statement of Expenditure/Utilization Certificate for considering subsequent release of grant/closure of project accounts. GI should also follow Rule 230(17) of GFR-2017 concerning reservation of SC/ST/OBC, if applicable.

(Konga Gopikrishna) Scientist –E/011-26590298

To

The Pay and Accounts Officer,

Department of Science & Technology,

New Delhi.

Copy for information and necessary action to:-

- 1. Cash Section (3 copies) for making the payment to the grantee, Account Section
- 2. Director of Audit, (Scientific Deptt.) AGCR Building, New Delhi 110 002.
- Registrar, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata-700 104

 Prof: Somprakash Bandyopadhyay, Management Information System Group, Indian Institute of Management Calcutta, Joka, Diamond Harbour Road, Kolkata- 700 104

 Head, Heritage Institute of Technology(HIT), Chowbaga Road, Anandapur, East Kolkata Township, Kolkata-700 107

6. Head(SEED)

7. Office copy

(Konga Gopikrishna) Scientist–E/011-26590298



**Dr. Somprakash Bandyopadhyay**Professor, MIS Group

Project Director, Social Informatics Research Group

e-mail: somprakash@iimcal.ac.in

**Indian Institute of Management Calcutta** 

Joka, Diamond Harbour Road Kolkata 700 104, India

Tel: +91 33 2467 8300-06 M: 92316-83443

web: www.iimcal.ac.in

To whom it may concern

This is to certify that Prof. (Dr.) Siuli Roy, Head, Department of Information Technology, Heritage

Institute of Technology, Kolkata and Dr. Souvik Basu, Head, Department of Computer Applications,

Heritage Institute of Technology, Kolkata are Technology Partners for execution of the Department

of Science and Technology (DST), Govt. of India, funded research project "Creating a digitally

enabled social knowledge management platform for rural SC community to bridge rural-urban

knowledge, information and market divide" (sanction no. DST/SEED/SCSP/STI/2019/106, dated

25.2.20). The total sanctioned budget for the project is Rs. 29,76,116/- for a period of two years, of

which the share of Heritage Institute of Technology, Kolkata is Rs. 14,81,840/-.

Somprakash Bandyopadhyay

Sombrakad Bondy Jackya

Principal Investigator

Project: Creating a digitally enabled social knowledge management

platform for rural SC community to bridge rural-urban knowledge,

information and market divide

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## **Executive Summary**

#### The Problem

One of the key deficiencies in many rural communities especially in SC community is the lack of linkage to local as well as the larger metropolitan area opportunity structure, including financial, technical, social and political resources. Right kinds of physical and/or virtual connectivity that are required to increase both bridging (external) and bonding (local) social capital of rural communities are grossly missing. Social capital refers to the network of social relations that may provide individuals and groups with access to resources and supports. Since rural communities are disconnected both physically and digitally from local as well as urban opportunity structures, they have (i) less access to quality educational support, training, advisory services (ii) less knowledge about the available local opportunities (community assets, sharable resources) (iii) less access to market links (buyer, seller, micro-credit etc.) and (iv) less access to any forum to discuss their problems with relevant agencies.

While the poor networking ties coupled with information, knowledge and market divide of rural Indian artisans are a known fact, the situations have further worsened due to the ongoing pandemic scenario, which marks the urgency of our research intervention in the context of overcoming extant rural marginalization. Due to the COVID 19 pandemic, physical sales of handicraft goods have come to a halt. Not only that, the 'new normal' has attempted in drastically changing the way socio-economic operations were performed in modern society. Lack of opportunities towards spontaneous face-to-face physical interactions have further pronounced the effectiveness of the virtual medium, where daily affairs in the changed times are increasingly getting dependent on digital channels for successful execution. Amidst such a scenario, if the rural artisans are not taught to optimally use the digital medium to attract socio-economic benefits, then the nature of their marginalization will further become more acute and the rural members will remain incapacitated in coping up with the changing socio-economic setting. Our research intervention keeps in mind the potentials contemporary digital technologies are endowed with and wishes to use the same as a tool to usher holistic rural empowerment along socio-economic axis.

#### **Our Objective**

The objective of this project is to demonstrate how the current internet-based social technologies<sup>1</sup> has the potential of building (business) knowledge capabilities and enhancing the entrepreneurial competencies of rural producers by bridging rural-urban knowledge & information divide through the creation of a *social knowledge management framework*. The project ultimately aims at creating rural business transformation using social technologies in order to eradicate sharp economic, social, and cultural difference between rural and urban producers. Rural transformation is only possible when there is livelihood enhancement and holistic development of the rural community using social technologies.

Considering the current pandemic situation and the "new normal" lifestyle that would follow the pandemic situation, we have reoriented our intervention plan using a "distributed intervention strategy" instead of a centralized intervention strategy. In this strategy, we do not need to use / install any capital equipment to create centrally-located facilities but rely on the availability of smartphones with target usergroups. We had an initial plan of creating three centralized internet kiosks and mobile internet kiosks and our assumptions were (i) the target participants would come to these centralized facilities physically (in case of centralized internet kiosks), or, (ii) our project personnel will go to the target participants physically (in case of mobile internet kiosks). Since this is not possible during this pandemic situation, we are now trying

<sup>&</sup>lt;sup>1</sup> social technology is an umbrella term used to capture a wide variety of terminologies depicting internet-enabled communications, platforms and tools, e.g. web 2.0, mobile 2.0, social media, social software, etc., which has the potential to establish *collaborative connectivity* among billions of individuals over the globe.

to implement a "distributed intervention" strategy, where everything is done remotely in an online, virtual mode using online messaging tools (e.g. WhatsApp) and video conferencing tools (e.g. Zoom) and we are approaching our rural target group using smart-phone enabled tools and platforms, as will be illustrated below.

## **Target Beneficiaries**

Rural artisans from all over Birbhum District of West Bengal, pursuing different art forms like kantha stitch, batik, leather, khesh work, woodcraft, handpainting, dokra work, appliqué work, terracotta, bamboo craft, jute craft and jewellery making, are our potential target beneficiaries. A special emphasis has been given in our project to select a considerable number of artisans belonging to the Scheduled Caste background. Ensuring a significant portion of SC artisans among our target group, our project attempts to create holistic impact for the most disadvantageous within the community of artisans residing in Birbhum. We have collaborated with **District Industries Center (DIC)**, **Birbhum and DC Handicrafts**, **Bardhaman** of West Bengal for this purpose. A description of target beneficiaries is provided in Chapter 3 of this report.

#### Architecting a Social Technology Driven Social Knowledge Management Framework

In this project, our objective is to utilize the potential of social technologies and socially enabled applications in addressing problems related to marginalization and social exclusion of rural communities. We have conceptualized a *social knowledge management framework* and developed a *platform* that empowers rural communities by connecting them with urban markets, government agents, trainers, investors etc. Social knowledge management in our context is a framework for rural empowerment using knowledge creation, assimilation and dissemination through digital connections and social collaboration, enhanced by social technologies. The suggested framework aims to digitally bridge rural-urban knowledge, information and market divide, by connecting rural community members with relevant agents and opportunities online. We propose to study the connection and collaboration among various entities that enables formation of virtual communities to bridge knowledge, information and market divide of rural community. Formation of these virtual communities has the most positive effect on social capital when they can increase network density and facilitate the spread of knowledge and information.

**Design Methodology:** Our design methodology is motivated by Action Design Research (ADR) approach and uses the following four interwoven activities:

- *Problem Formulation:* problem perceived in practice or anticipated by researchers.
- Building, Intervention, and Evaluation (BIE): Testing the initial design of the IT artifact in the context of its usage. This phase "interweaves the building of the IT artifact, intervention in the organization, and evaluation".
- *Reflection and Learning:* This is an iterative process to build and refine a solution to make it applicable to a broader class of problems.
- Formalization of Learning: Finalizing a solution that addresses the problem

This design methodology has been discussed in details in **Chapter 5**. Our social technology driven social knowledge management framework is an outcome of our design methods discussed above and based on the premise that just providing access to technology through computer and internet are not enough to empower rural producers as active agents. Following the ADR approach, in the initial stage of our project intervention, we have attempted in delving deeper into the problems faced by our target group. In order to have a grass-root level idea, members of our Research Organization (RO) interviewed 70 artisans from Birbhum, pursuing different art forms like kantha stitch, batik, leather, khesh work, woodcraft, hand-painting, dokra work, appliqué work, terracotta, bamboo craft, jute craft and jewellery (Appendix II). In our project, we have randomly selected artisans from different blocks all over Birbhum, namely Bolpur, Mohammad Bazar, Nanoor, Rampurhaat, Labpur, Suri and Sainthia. A special emphasis has been given in our project to select a

considerable number of artisans belonging to the Scheduled Caste background. Ensuring a significant portion of SC artisans among our target group, our project attempts to create holistic impact for the most disadvantageous within the community of artisans residing in Birbhum.

The multifaceted hindrances faced by the artisans, as evident from our qualitative interactions, can be categorized broadly into information, knowledge and market divide and poor social capital. Lack of information regarding government schemes, can be categorized as information divide or lack of purely factual data. Poor social capital of artisans gets reflected in the networking issues they face. Poor communication channels with local as well as global buyers and sellers put the rural artisans in disadvantageous positions. Knowledge divide, comprising of information divide coupled with lack in skill, experience and attitude, gets reflected in the artisans' ignorance regarding innovating new business prospects, innovating new product and design ideas and related things. Innovating business prospects and newer product and design ideas will not be possible if artisans have adequate information regarding business prospects and product and design ideas. It is only when along with adequate information, artisans develop their skills, experiences and attitudes, then only materialization in the form of concrete innovation can take place. Finally, ignorance regarding emerging selling channels and bondage to middlemen, curbing direct market access of artisans, ignorance regarding the market prospects that digital channels can offer can be categorized as market divide.

If the entire artisan community of Birbhum is to be considered as our potential beneficiary, then a group of 70 can only be understood as the subset of the whole group. However, the findings of requirement analysis, attained after conducting interviews with our initial group of 70 artisans, can be taken as a benchmark, against which our intervention can be designed. The findings as discussed above indicate that artisans of Birbhum face hindrances majorly along four-fold axes, namely, information, knowledge and market divide and poor social capital, addressing which will be the concern of our project intervention. We have designed our social knowledge management framework as a response to address the hindrances faced by our target group along the four-fold axes. The motive behind our social technology driven social knowledge management framework is to empower rural artisans and improve their socio-economic prospects by overcoming their information, knowledge and market divide and improving their social capital. And this we wish to achieve through the formation of purposive virtual communities, namely community of practice and community of purpose among rural artisans and across rural-urban entities.

This design methodology has been discussed in details in **Chapter 5**.

#### Technology Development: Developing a Social Knowledge Management Platform (NCoRe)

We have designed our social knowledge management framework in a way so that it can be effective in ushering holistic rural empowerment by improving social capital and mitigating information, knowledge and market divide faced by rural artisans. In order to address the four fold hindrances stated above, we have architected our social knowledge management framework by segmenting the framework into three concrete components. In **chapter 6**, we have explained our technology development initiatives and narrate the design and development of a *Community Driven Social Knowledge Management Platform to bridge Knowledge Asymmetry using Social technologies (NCoRe)*. In **Chapter 7**, we will show how the use of social media can supplement our SKM Framework. We will explain how we have cultivated Community of Practice through *WhatsApp*, enabling intra-and inter-community knowledge exchange; and, how we have cultivated Community of Purpose through *Facebook* to promote market linkage for artisans.

A Community Driven Social Knowledge Management Platform to bridge Knowledge Asymmetry using Social technologies (NCoRe): Our social knowledge management framework comes with a digital platform, NCoRe. NCoRe is designed to facilitate the formation of both community of practice and purpose among rural members and across rural urban entities. This has been discussed in details in Chapter 6.

The platform's offering is divided into three segments:-

- Firstly, the platform offers the opportunity to urban consumers to co-create handicraft and handloom goods by collaborating with a range of rural producers.
- Secondly, the platform acts as a classic exhibiting site for a range of products (garments, bags, jewelleries, home décor items, etc.) created by artisans of Birbhum. The products are displayed in the platform, along with the stories of their respective creators. NCoRe houses online shops of a vast range of artisans from Birbhum, where stories of each artisan along with their videos and product photos are displayed.
- Thirdly, NCoRe offers both rural and urban entities unhindered opportunity to avail for skill upgradation prospects. The synchronous training facilities integrated in the platform while allows rural artisans to upgrade their skill by virtually connecting with domain experts on one hand, on the other hand, NCoRe also allows urban entities to get training from rural producers on indigenous art and craft.

Additionally, we have developed an "Artisan Profiling App" for collecting artisans' profile in multi-media, so that we can easily create digital shops for all the artisans in our NCoRe Paltform.

## Use of Social Media: Cultivating Communities of Practice and Communities of Purpose

Creating Community of Practice through Whatsapp community chat: Triggering interactions between rural artisans and across rural-urban entities by forming whatsap groups happens to be one component of our social knowledge management framework. Through whatsapp, we have attempted in enhancing both bridging and bonding social capital of rural artisans residing in Birbhum. We have created groups in whatsapp, where rural artisans all across Birbhum have been incorporated and they get a chance to engage in purposive knowledge exchange both within and across their community. It is through whatsapp, members of our RO send rural artisans asynchronous videos to boost up their production capacity. This implies the importance of whatsapp as a tool in our research intervention to facilitate cultivation of community of practice among our selected target group. This has been discussed in details in Chapter 7.

Creating Community of Purpose through Facebook: One of the mottos of our social knowledge management framework is to familiarize rural artisans of Birbhum with social media sites like Facebook and Instagram and help them in using the same to derive business benefits. While through whatsapp, we have attempted in cultivating community of practice among and across rural urban entities, through social media sites like Facebook and Instagram, we have tried to transcend beyond triggering practice-oriented communication to purposive communication culminating to economic exchange. It is the cultivation of community of purpose leading to concrete business benefits that we have attempted to facilitate by taking resort to social media sites. Members of the RO have opened Facebook and Instagram accounts of individual members of the target group, where the products created by individual member artisans are exhibited, along with their stories and journeys to a range of social media users. The intention is to connect these artisans and their creations with the global pool of consumers, where purposive collaboration between the two is expected to attract concrete socio-economic benefits for the artisans. Cultivation of community of purpose via social media channels will not only improve social capital of rural members, but will also make a significant contribution in addressing their market divide. This has also been discussed in details in Chapter 7.

#### **Workshops and Trainings**

As a part of our pre-pilot studies, we have conducted several awareness workshops for artisans with DIC, Birbhum on (i) what is online business and how to do it (ii) digital photography and videography, (iii) innovative product design and marketing using digital channels, etc. (discussed in details in **Chapter 8**).

Subsequently, we have planned to provide a systematic training to 700-800 artisans from Birbhum over a period of one year in a batch of 15 to 20, where each batch will receive training for a period of eight weeks. The training program is divided into three components:

- (i) Online, live training sessions for 6 hours using Zoom Platform: These live training sessions (synchronous) will be for two hours each day on Monday, Wednesday and Friday (total six hours). Our weekly online training intervention operates along three major axes: Digital Competency Training, Training on Photography & Videography, and, Innovative, Market-Oriented Product Development Training (discussed in details in Chapter 8).
- (ii) Following the online training, we will help each individual artisan to create their digital shops in our online platform and Facebook and also form a WhatsApp group to enable intra-and inter-community knowledge and information exchange.
- (iii) Additionally, we will periodically distribute small video tutorials in Bengali on topics related to digital marketing and entrepreneurship development. The duration of each video tutorial is 7 to 10 minutes. In a span of eight weeks, we plan to send around 60 video tutorials (one to tow tutorials per day).

Please see **Chapter 8** for details of the training program. To enable artisans to attend this 6-hours weekly online training on ZOOM, we are recharging their smartphones with data vouchers from their respective service providers, which would be sufficient to cover the internet cost for this 6 hours online training.

## **Expected Outcome of our SKM programme intervention (Figure 1)**

The SKM framework helps the rural artisans to know the following:

- to know opportunities in local market and the dynamics of local production [through Whatsapp virtual community formation]
- to know opportunities in non-local market [by giving information of boutique owners or other non-local customers through SKM platform (NCore) and other e-commerce (e.g. Amazon) / social networking websites (e.g. Facebook)]
- to know customers' tastes and preferences through direct interactions with customers [using phone / chat] and indirect information from e-commerce / social networking sites
- to know sources of finance and related welfare schemes from Govt agencies [through advisory service]

The SKM framework also helps the rural artisans in learning the following:

- to learn use of internet to search product / market related information
- to learn about how to click attractive photos of my products and make it exhibitable on online selling
- to learn about new online selling channels and how to register and perform business successfully in ecommerce sites
- to learn about how to use different social networking sites (FB, Instagram) to attain business benefits
- to learn about new designs and get insights on product innovation from domain experts

This smart-phone based intervention plan will help the rural artisans to use their mobile devices in fruitful ways. Moreover, training the artisans to enhance their business prospects through smart phones will help them in the long run to stay connected with online customers and acquire knowledge regarding market operations easily. Optimal usage of smartphones for business related purposes will make our intervention sustainable, where the artisans will be able to use the digital medium from their mobile devices only, without depending on centrally-installed facilities by external entities.

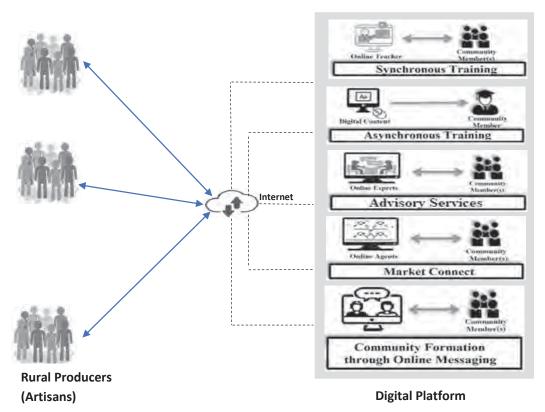
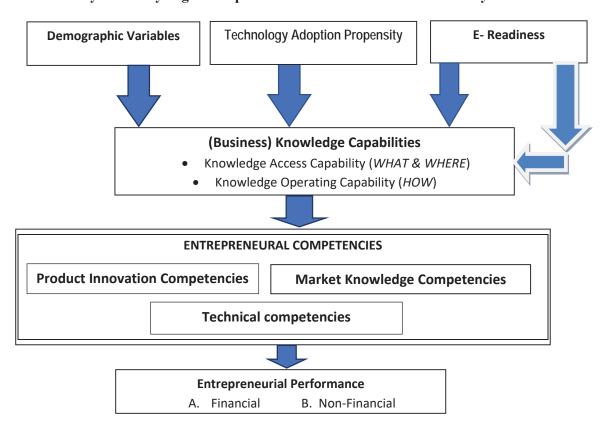


Figure 1. Functional Description of SKM Program Intervention

## A Pilot Study for Analysing the Impact of Intervention: Some Preliminary Observations



In a pre-intervention pilot study, we are able to successfully form active Whatsapp communities with a group of artisans and onboard them to use a digital storefront (<u>ncore.co.in</u>). Using survey instruments on this pilot sample, we first develop reliable scales for measuring the key constructs. The main takeaways are:

- There is no clear relationship between gender and any of our scale items. This indicates that a successful intervention that is able to raise capability, competency and/or performance measures is likely to have similar effects regardless of gender. A similar pattern holds for caste.
- For our e-readiness, capability and performance metrics, less experienced artisans have higher scores. For competency however, there is a U-shaped relationship with years of experience.
- E-readiness and capability metrics are positively correlated with education levels. However, the
  relationship is less stark for competency metrics. Hence, education level appears to play a smaller
  role in predicting competency.

Next, we model correlations across our scales to better understand how they might be related to each other. Linear regressions show that:

- E-readiness and capability are positively correlated
- Capability and competency are positively correlated
- Competency and performance are positively correlated

The goal of our intervention is to eventually demonstrate that enhancing capability and e-readiness can have a downstream effect on competency and performance. We conduct 2 preliminary mediation analyses to examine whether this hypothesis is plausible.<sup>2</sup>

- First, we examine **the effect of capability on performance**, using competency as the mediator. We find partial mediation (67%), which indicates that 67% of the effect of capability on performance is through its effect on competency.
- Next, we examine **the effect of e-readiness on performance**, using competency as the mediator. In this case, we do not find a direct effect of e-readiness on performance, and find full mediation (92%), indicating that e-readiness affects performance ONLY through its effect on competency.

This is discussed in details **in Chapter 9**. This suggests that any intervention targeted at enhancing capabilities can have positive trickle down effects.

#### Some Implementation Challenges and Next Step

Some implementation challenges have been discussed in details in **Chapter 10.** In **Chapter 11,** we have discussed our scope of work from 1<sup>st</sup> April, 2021 onwards. This includes our structured intervention for 50-weeks, which is now being deployed in the field following the stepped-wedge RCT as our impact assessment methodology. The cluster randomized trial is a firmly established study design particularly useful for pragmatic evaluations of interventions, such as changes to the way services are delivered, educational interventions or public health type interventions, to name but a few<sup>3</sup>. The stepped-wedge cluster randomized trial (SW-CRT) involves the sequential transition of clusters from control to intervention conditions in randomized order, until all clusters are exposed<sup>4</sup>. In our context, the SW-CRT provides a means to conduct a randomized evaluation which otherwise would not be possible. As "social intermediaries", we aim to facilitate re-tooling and community building, both of which can be self-sustaining and have the potential to bring concrete socio-economic benefits even after the intervention. In general, our findings can have large scale policy implications for bottom of pyramid (BOP) entrepreneurs by identifying mechanisms through which digital knowledge management tools can lead to greater entrepreneurial success in emerging markets.

<sup>&</sup>lt;sup>2</sup> https://en.wikipedia.org/wiki/Mediation\_(statistics)

<sup>&</sup>lt;sup>3</sup> Murray DM. Design and Analysis of Group Randomized Trials. New York, NY: Oxford University Press, 1998.

<sup>&</sup>lt;sup>4</sup> Ellenberg SS. The stepped-wedge clinical trial: evaluation by rolling deployment. JAMA 2018;319:607–08.

# Introduction

In this project, our objective is to utilize the potential of social technologies<sup>5</sup> and socially enabled applications in addressing problems related to marginalization and social exclusion of rural communities. We have conceptualized a social knowledge management framework that is designed to empower rural artisans by connecting them with urban markets, Government and non-Governments agencies, experts and other related entities, collaboration with whom is crucial in the process of boosting the production and market capacity of rural craft producers. The suggested framework aims to digitally bridge rural-urban knowledge, information and market divide, by connecting rural community members with relevant agents and opportunities online. We propose to study the connection and collaboration among various entities that enables formation of virtual communities to bridge knowledge, information and market divide of rural community and improve their social capital in the process. Formation of these virtual communities has the most positive effect on social capital when they can increase network density and facilitate the spread of knowledge and information.

Although there is a significant amount of research dealing with different models of knowledge management in the context of business organization to enhance the organizational performance, there is no explicit proposal for knowledge management in the context of society at large where the objective is to manage knowledge for social development. Our innovation rests in bringing the concept of knowledge management outside formal organizational boundaries. Our project combines the aspects of social technologies and social development to derive a social knowledge management framework, addressing the challenges faced by contemporary societies to bridge the rural-urban knowledge and information divide and to ensure holistic development of society.

Social knowledge management in our context is a framework for rural empowerment using knowledge creation, assimilation and dissemination through digital connections and social collaboration, enhanced by social technologies. We will demonstrate the effectivity of social knowledge management framework by showing how its collaborative premise is conducive in cultivating different communities, both within rural members and across rural-urban members. We will show the effectivity of social knowledge management framework in terms of cultivating community of practice and community of purpose. Community of practice refers to a group of people who share a particular practice. Collaborations among the members of community of practice, or practitioners in other words, results in collective learning, which makes community of practice a collaborative learning space. Community of purpose is defined as a community of people, who are going through the same process, or are trying to achieve a similar objective. In our research framework, we will attempt to build both community of practice and purpose among rural-urban agencies to boost socioeconomic prospects of rural producers. In rural context, participants not just lack access to market but also suffer from other ancillary factors, which in amalgamation contribute in sustaining their marginalization. It is through community formation, through relevant dialogue and collaboration, attempts can be undertaken to empower the rural marginalized on a holistic scale.

While the poor networking ties coupled with information, knowledge and market divide of rural Indian artisans are a known fact, scenario have further worsened due to the ongoing pandemic scenario, which marks the urgency of our research intervention in the context of overcoming extant rural marginalization. Due to the COVID 19 pandemic, physical sales of handicraft goods have come to a halt. Not only that, the

<sup>&</sup>lt;sup>5</sup> social technology is an umbrella term used to capture a wide variety of terminologies depicting internet-enabled communications, platforms and tools, e.g. web 2.0, mobile 2.0, social media, social software, etc., which has the potential to establish collaborative connectivity among billions of individuals over the globe.

'new normal' has attempted in drastically changing the way socio-economic operations were performed in modern society. The ongoing lockdown has further pronounced the effectiveness of the virtual medium, where daily affairs in the changed times are increasingly getting dependent on digital channels for successful execution. Amidst such a scenario, if the rural artisans are not taught to optimally use the digital medium to attract socio-economic benefits, then the nature of their marginalization will further become more acute and the rural members will remain incapacitated in coping up with the changing socio-economic setting. Our research intervention keeps in mind the potentials contemporary digital technologies are endowed with and wishes to use the same as a tool to usher holistic rural empowerment along socio-economic axis. The introduction to our project report is divided into two parts: Section 1.1 postulates the problem definition, while section 1.2 is reserved to narrate explicitly the objective of our study.

#### 1.1. Problem Definition

With the advent and proliferation of industrialization and concentration of employment opportunities in urban areas, the Indian rural areas have started suffering from territorial disadvantages with respect to their urban counterparts. From a social point of view, the isolation of rural areas contributes in keeping rural communities ignorant of urban lifestyle and pattern of social exchange, while economic isolation negatively impacts their market performance. This results in a rural-urban divide, where urban areas are better equipped in terms of access to both physical and non-physical resources and the capability to utilize the same in generating opportunity prospects. The rural disadvantages are not just in terms of lack of access, but characterized by the inability of the rural communities to utilize extant resources in pursuit of nurturing individual capability. In the absence of the above-mentioned credentials, the rural communities often fall short in capitalizing on their individual capability to pronounce their opportunity scopes.

Extant rural disadvantages account to be much more than mere economic depravity of rural communities. Lack of access to resources and exposure to unfavorable environment make rural communities victims of social discrimination and exclusion, which subsequently contributes in making the community powerless along socio-economic axis. Amidst this backdrop, centralized developmental policies often fall short in addressing the issue at stake. By externally thrusting developmental aid, without analyzing whether the target group is equipped to utilize the given aid for benefit, the conventional developmental paradigms seldom take into concern empowerment of the intended beneficiaries. John Friedmann's alternative developmental model focusing on restoration of developmental aid to those in need offers a compelling way out from conventional developmental measures (Friedmann, 1992)<sup>6</sup>. He rightly identified empowering the marginalized as an alternative and effective developmental strategy. Empowering the marginalized refers to enhancing individual capacities of marginalized members in acquiring the means to meet their own needs. This includes possession of adequate agency among the target group which will develop their problem-solving skills by overcoming extant hindrances and possession of necessary social capital, skills, resources and opportunities to accomplish desired goals.

One of the key deficiencies in many rural communities especially in SC community is the lack of linkage to local as well as the larger metropolitan area opportunity structure, including financial, technical, social and political resources. Right kinds of physical and/or virtual connectivity that are required to increase both bridging (external) and bonding (local) social capital of rural communities are grossly missing. Social capital refers to the network of social relations that may provide individuals and groups with access to resources and supports. Since rural communities are disconnected both physically and digitally from local as well as urban opportunity structures, they have (i) less access to quality educational support, training, advisory services (ii) less knowledge about the available local opportunities (community assets, sharable resources) (iii) less

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<sup>&</sup>lt;sup>6</sup> Friedman, John. (1992). Empowerment: The Politics of Alternative Development. Wiley-Blackwell.

access to market links (buyer, seller, micro-credit etc.) and (iv) less access to any forum to discuss their problems with relevant agencies.

Since majority of the rural population in India can be categorized as marginalized, due to the dearth of knowledge and lucrative opportunities, empowering them in holistic sense is the only way out in the process of addressing rural marginalization. In this context, we try to address the issue of rural empowerment using a knowledge-theoretic approach. Rural empowerment, the way we conceptualize it, can only be achieved by equipping rural communities with necessary knowledge and its operating capacities through which the target group will derive the capacity to take informed decisions. Possession of knowledge and its operating capacities will enable the rural communities to collaborate across territories and communities: an indispensable factor in cultivating and sustaining social capital (UNESCO, 2005)<sup>7</sup>. The resultant collaboration and the capacity to operate knowledge in generating benefits have the potential in enhancing opportunity scopes for members of rural community. With an enhanced social capital and opportunity prospects, the rural communities will be better equipped to take informed actions and decisions.

While knowledge-driven rural empowerment happens to be the focus of our research intervention, interconnected spirit of contemporary digital technologies has served to be an implementing tool, which has made it possible for us to architect a holistic scheme for rural empowerment. Contemporary digital technologies have made today's world an integrated space. With the provision to connect easily and smoothly, the digital medium enables people to collaborate across territories and communities. With the advent of digital technologies and the proliferation of information age, attempt to include marginalized sectors within the mainstream was a major drive undertaken. Consequently, several efforts emerged, which attempted in mitigating rural-urban divide virtually by extending digital services to rural communities with an attempt to address their socio-economic marginalization (Lekoko, 2011)8. However, the sporadic nature of the schemes coupled with rural communities' inability to utilize digital technologies in pursuit of generating personal benefits, heavily contributed in making majority of the initiatives ineffective. As an alternative, we have attempted in deploying the inclusive spirit of digital technologies in cultivating rural empowerment on a holistic scale. Instead of simply providing digital access to the rural marginalized, we have attempted in empowering the target group to effectively use the medium in generating opportunity prospects. Our research endeavor uses contemporary digital technologies to usher rural empowerment, where the medium has been used to inculcate necessary knowledge and its processing abilities among rural target group.

#### 1.2. Objective of the Study

Our research intervention attempts to further a prospective means to achieve holistic rural empowerment in the context of developing nations like India, by facilitating community formation among rural urban entities by using the connecting spirit of contemporary digital technologies. In this context, **the objective of this project** is to demonstrate how the current internet-based social technologies has the potential of building knowledge capabilities and enhancing the entrepreneurial competencies of rural producers by bridging rural-urban knowledge & information divide through the creation of a *social knowledge management framework*. The project ultimately aims at creating rural business transformation using social technologies in order to eradicate sharp economic, social, and cultural difference between rural and urban producers. Rural transformation is only possible when there is livelihood enhancement and holistic development of the rural community using social technologies.

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<sup>&</sup>lt;sup>7</sup> United Nations Educational, Scientific and Cultural Organization (2005). Toward knowledge societies. UNESCO World Report. Conde-sur-Noireau, France: Imprimerie Corlet.

<sup>&</sup>lt;sup>8</sup> Lekoko, R. N. and Semali, L.(2011). Cases on Developing Countries and ICT Integration: Rural Community Development, IGI Publication. September, 2011. ISBN13: 9781609601171

Our research intervention places knowledge possession and operating abilities to be the crucial prerequisite in the process of achieving holistic rural empowerment. Our research intervention attempts in expanding the notion of knowledge management to *social knowledge management*, referring to the aspect and effectivity of managing *social knowledge* for rural empowerment. Social knowledge management in our context is a framework for rural empowerment using knowledge creation, assimilation and dissemination through digital connections and social collaboration, enhanced by social technologies (Bandyopadhyay, 2016)<sup>9</sup>. Our aim is to architect as well as empirically validate a social knowledge management framework that would mobilize knowledge resources, bridging the gap between the urban-rural communities and creating and building social capital, leading to rural empowerment and, as a consequence, holistic development of the society.

Our research intervention advocates for a collaborative approach, to be realized by virtue of social technology-driven social knowledge management framework, which will usher rural empowerment by facilitating effective rural-urban information and knowledge exchange. The objective of the proposed framework rests in cultivating virtual communities, where empowerment will usher through easy and smooth knowledge exchange across rural-urban communities. This community formation is not simply derivative of giving access to digital services to rural non-users. It is only when rural members develop the ability to nurture individual capability through digital usage, incentives of self-prosper will evoke the need to collaborate, the prerequisite for voluntary community formation. This implies that possession of knowledge and knowledge operating capacities in amalgamation accredits rural members the ability to collaborate and subsequently form virtual communities. Knowledge exchange and effective collaboration, derivative of virtual community formation, not only bears the prospect of nurturing individual capability but also enables the rural members to capitalize on the same and generate prospective opportunity outcomes. While community formation has explicit socio-economic promises, it is only through effective collaboration derivative of community formation that has the prospects of mitigating rural-urban information, knowledge and market divide.

Our social knowledge management framework comprises of three parts: creating community of practice through WhatsApp chat, creating community of purpose through Facebook and other social networking sites and, finally, creating NCoRe: a community driven social knowledge management platform to bridge knowledge asymmetry using social technologies, which is endowed to facilitate formation of both community of practice and purpose. With the formation of purposive virtual communities, rural target group will derive the opportunity to engage in effective information, knowledge and resource exchange, thereby attaining socio-economic benefits for themselves in the process.

In this project, artisans from all over Birbhum District of West Bengal pursuing different art forms like kantha stitch, batik, leather, khesh work, woodcraft, handpainting, dokra work, appliqué work, terracotta, bamboo craft, jute craft and jewellery making are our potential target beneficiaries. A special emphasis has been given in our project to select a considerable number of artisans belonging to the Scheduled Caste background. Ensuring a significant portion of SC artisans among our target group, our project attempts to create holistic impact for the most disadvantageous within the community of artisans residing in Birbhum. We have collaborated with District Industries Center (DIC), Birbhum for this purpose.

Our research organization (RO) will be acting as an intermediary in the early years of community formation using digital platforms. The role of RO is expected to be negligible once the rural participants start engaging voluntarily to establish purposive virtual collaborations using digital platforms. During our RO's tenure as a social intermediary, we aim to enable our rural target group with the ability to know and learn certain things, which in the long-run bears the potential to bring concrete socio-economic benefits for the rural target group.

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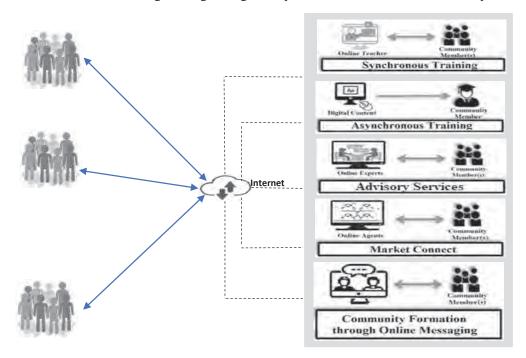
<sup>&</sup>lt;sup>9</sup> Bandyopadhyay, Somprakash, Sneha Bhattacharyya and Jayanta Basak (2020). Social Knowledge Management for Rural Empowerment: Bridging the Knowledge Divide Using Social Technologies. Routledge. ISBN-10: 0367334933

In summary, the objective of our *social knowledge management (SKM) framework* is to help the rural artisans of Birbhum:

- to know opportunities in local market and the dynamics of local production [through Whatsapp virtual community formation]
- to know opportunities in non-local market [by giving information of boutique owners or other non-local customers through SKM platform (NCore) and other e-commerce (e.g. Amazon) / social networking websites (e.g. Facebook)]
- to know customers' tastes and preferences through direct interactions with customers [using phone / chat] and indirect information from e-commerce / social networking sites
- to know sources of finance and related welfare schemes from Govt agencies [through advisory service]

The SKM framework will also help the rural artisans:

- to learn use of internet to search product / market related information
- to learn about how to click attractive photos of my products and make it exhibitable on online selling channels
- to learn about new online selling channels and how to register and perform business successfully in ecommerce sites
- to learn about how to use different social networking sites (FB, Instagram) to attain business benefits
- to learn about new designs and get insights on product innovation from domain experts



**Digital Platform** 

This smart-phone based intervention plan will help the rural artisans to use their mobile devices in fruitful ways. Moreover, training the artisans to enhance their business prospects through smart phones will help them in the long run to stay connected with online customers and acquire knowledge regarding market operations easily. Optimal usage of smartphones for business related purposes will make our intervention sustainable, where the artisans will be able to use the digital medium from their mobile devices only, without depending on centrally-installed facilities by external entities.

## The Project Area Profile and Target Beneficiaries

## 3.1 The Project Area Profile

Birbhum, the area of our intervention, happens to be a rich reserve of natural resources and artistic heritage. Some of the notable forms of cottage industries of Birbhum include batik, kantha stitch, macramé (weaving by knotting threads), leather, pottery and terracotta, woodcarving, bamboo and cane craft, metal works and various tribal crafts. Other main industries in Birbhum are agriculture-based industries like textiles—especially cotton and locally harvested tussar silk textiles, non-timber based forest products (NTFP) based industries, arts and crafts.

The rich presence of multiple art forms inevitably makes Birbhum the house of thousands of skilled artists. In our project, we have mainly attempted in devising empowering schemes for the non-farm producers residing in different blocks across Birbhum. The objective of our research project is to architect a social knowledge management framework to usher socio-economic empowerment of handicraft artisans residing in Birbhum.

Selected blocks - We have triggered our project intervention by randomly selecting artisans from different blocks all over Birbhum, namely Bolpur, Mohammad Bazar, Nanoor, Rampurhaat, Labpur, Suri and Sainthia. We have collaborated with District Industries Center (DIC), Birbhum for this purpose.

Land use and Cropping Pattern - The major cropping pattern of the selected geographical area is Aman, Aus, Paddy, Wheat, Vegetable, Oilseeds, Pulses, Boro Paddy. Paddy is the major crop of Birbhum which covers an area of 94% of the total cultivated area of the district during kharif. Other major crops are Oilseeds, Wheat & pulses, vegetables. The major cropping pattern of the District is Aman/ Aus Paddy/Wheat/ Vegetable / Oilseeds/ Pulses/ Boro Paddy.

**Practiced Art Forms** – Birbhum is the melting pot of several indigenous art forms like batik, kantha stitch, leather craft, Khesh work, terracotta, wood craft, bamboo and cane craft, dokra art, metal works and various tribal crafts. A brief description of each of the major art forms practiced in Birbhum is given below, so that a fairer understanding of the region's artistic resources can be attained.

• Batik - Batik art form refers to the technique of wax-resist dyeing applied to the whole cloth. Although this art form originated in Java, Indonesia, it is extensively practiced with intricate detail in India. The applied wax resists dyes and therefore allows the artisan to colour selectively by soaking the cloth in one colour, removing the wax with boiling water, and repeating if multiple colours are desired. The art form requires flawless skill to get reproduced on a range of items. Birbhum of West Bengal, India, happens to be one of the indigenous sites where batik is practiced extensively. The skills and expertise of the craftsmen have witnessed reproduction of flawless batik work on a range of items and garments following an eco-friendly way of production.

Batik Work





Batik Motk on Paugatore 2018

• Kantha Stitch - Kantha is described as several layers of white or light-coloured cotton cloth, such as sarees, sewn or quilted together with predominantly white thread using successive rows of running stitches. The poor man's Kantha seldom had designs but later the trend of decorative Kantha, called Nakshi Kantha came into being. Patterns and special motifs were outlined with black, blue or red thread in backstitch. Motifs included flowers, animals, scenes from rural life and sometimes even historical figures. The creation of the cloth was usually considered a ritual as it was used for ceremonial purposes. Birbhum of West Bengal, India, happens to be one of the indigenous sites where kantha stitch is practiced extensively. The skills and expertise of the craftsmen have enabled Birbhum to earn the Geographical Indication (GI) tag for kantha work, denoting the locale as the most authentic origin of the art form.

#### Kantha Stitch







Art Silk Saree with Kantha work

Leather Craft - Leather crafts have been one of the most prominent artistic traditions of India,
particularly of Birbhum in West Bengal. The district houses a multitude of skilled leather practitioners,
whose skills and expertise lead to the creation of items of a vast range intricately made out of leather.
Ranging from bags to other accessories and items of home décor, leather craft exuberates a rich heritage
of traditional aesthetics, elegance, and modern artistic creations.







• Wood craft – Wood crafting is one of the oldest arts of humankind. Wooden spears from the Middle Paleolithic, such as the Clacton Spear, reveal how humans have engaged in utilitarian woodwork for millennia. With a tradition of its own, at present a number of artisans from Birbhum are involved in practicing the art form. With their skill and expertise, our artistic geniuses have been successful in carving out a variety of items in wood, ranging from items of home décor to utilities.







Terracotta - Terracotta is a traditional Indian art form that has taken shape over thousands and thousands of years. It includes intricate moulding of clay to create sculptures, figurines, earthenware and other varied elements. The art products in terracotta or burnt clay satisfied the creative impulse of the artists and also met the domestic and ritual needs of ordinary man. Clay objects were either baked in the sun or burnt into terracotta for hardening and durability and were used by man in his daily life since prehistoric times. In contemporary times, the popularity and demand of the art form has led reproduction of other items out of terracotta, like jewelleries and showpieces. Birbhum houses a significant number of terracotta artists, whose intricacy, skill and expertise have redefined carvings out of clay into antique pieces of aesthetic importance.

Teracotta







• Khesh Work - Khesh Work is considered to be an aesthetic tradition of relatively recent origin, having believed to originate from the aesthetic imagination of creative artists residing in Birbhum. The weaving technique essentially involves tearing old sarees into thin strips - the warp has the new thread and the weft uses the thin strips of sarees. The weavers collect cotton sarees and it is the women who tear the sari into long strips. Infused with indigenous aesthetics, khesh work produced on a variety of items reflects a fusion of traditional aesthetics and modern art.







• Jute craft - The handicrafts of Jute is one of the oldest crafts known to man and India has a rich source of jute materials. Artisans at rural shades have a practice to produce stunning utility and decorative jute articles. While historically jute weaving was seen in the context of producing practical tools, at present the popularity of the art form has enabled skilled craftsmen to produce a range of utility and home decor items to innovative jute accessories, including bags and jewelleries. Birbhum houses numerous experienced jute artists, whose skills and expertise make them proficient in making innovative items out of jute.







• Dokra Art - Dokra art is non-ferrous metal casting using the lost-wax casting technique. This sort of metal casting has been practiced in India for the past 4000 years and at present dokra features to be one of the major artistic heritage of the nation. This art form features to be the indigenous heritage of the state of West Bengal, where districts Birbhum and Bankura house several skilled dokra artists of the nation. The skills and expertise of the craftsmen have witnessed aesthetic reproduction of dokra art to produce a vast variety of items ranging from intricate jewelleries, showpieces to figurines and idols carved out of lost wax technique.







Beads and Dokra Jewellery Set

A brief description of the multiple art forms practiced in Birbhum reflects the aesthetic importance of the district. An appreciation and intention to promote and preserve indigenous heritage is incomplete without proposing empowering measures for the practitioners of the art forms. In order to do justice to indigenous art forms and their practitioners, in our project we have attempted in randomly selecting artisans from all across Birbhum, who are pursuing the multitude of art forms stated above. Following we will narrate details regarding our target beneficiaries selected for the said project.

#### 3.2 Target Beneficiaries

Artisans from all over Birbhum, pursuing different art forms like kantha stitch, batik, leather, khesh work, woodcraft, handpainting, dokra work, appliqué work, terracotta, bamboo craft, jute craft and jewellery making are our potential target beneficiaries. A special emphasis has been given in our project to select a considerable number of artisans belonging to the Scheduled Caste background. Ensuring a significant portion of SC artisans among our target group, our project attempts to create holistic impact for the most disadvantageous within the community of artisans residing in Birbhum. We have collaborated with District Industries Center (DIC), Birbhum and DC Handicrafts, Bardhaman, West Bengal for this purpose. An initial list of target beneficiaries is provided in the **Appendix III** of this report.

knowledge management offers hope in this prospect, because, apart from providing relevant market-related connections, it also attempts in developing knowledge capability of rural members through purposive collaborations.

#### 7.2.2 Cultivating Community of Purpose through Facebook

In our research intervention, we have attempted in creating community of purpose among rural urban agents through social media sites like Facebook. In Facebook, members of RO have created a Facebook page called NCoRe Hand-e-Craft (<a href="https://www.facebook.com/ArtofBengal">https://www.facebook.com/ArtofBengal</a>) and individual profiles of member artisans, where their created products are displayed along with short snippets on the creator of the handmade goods (<a href="https://www.facebook.com/pg/ArtofBengal/videos/">https://www.facebook.com/pg/ArtofBengal/videos/</a>). Since members of our target group are practitioners of different art forms and creator of a multitude of different products, the NCoRe page hosts category-wise image of handmade goods, namely, garments, jewelleries, home furnishings, bags, utilities and others.

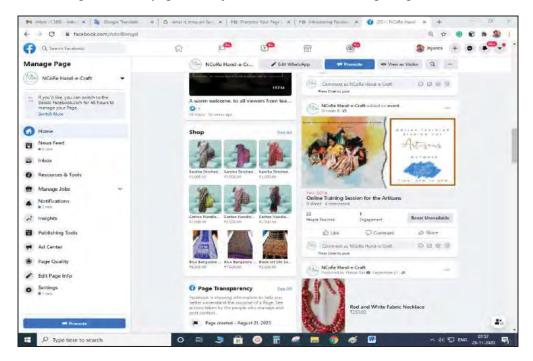


Fig. 4. Screenshot of NCoRe Facebook page

Facebook provides a mobile-first shopping experience where an individual/business entity can easily create an online store. As many businesses are creating and strengthening their digital presence online amidst the ongoing pandemic scenario, we are building digital shops on Facebook to promote different handcrafted items manufactured by rural artisans, so that the latter's business does not affect much amidst the changing setting. All items are showcased in Facebook with proper description and artisan name.

https://www.facebook.com/ArtofBengal/shop/?referral\_code=page\_shop\_tab&ref=page\_internal\_

Every handcrafted item in the Facebook page is linked with the digital catalogue exhibited in our digital platform, NCoRe, for more detailed explanation and visualization. Apart from that, this digital shop allows customers to contact directly with the rural artisans through WhatsApp to resolve product-related queries, offer support and more. Through Facebook, artisans are expected to connect globally with a pool of buyers and sellers and benefit socio-economically from the purposive exchanges taking place. Fig. 4 and 5 are screenshots of our NCoRe Facebook page, which depicts the way the page is designed, the products are displayed and artisan details posted alongside the products to narrate holistically to the buyer the journey behind the exhibited handmade good.

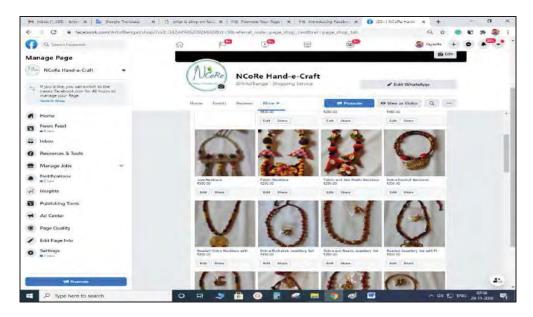


Fig. 5. Screenshot of NCoRe Facebook page

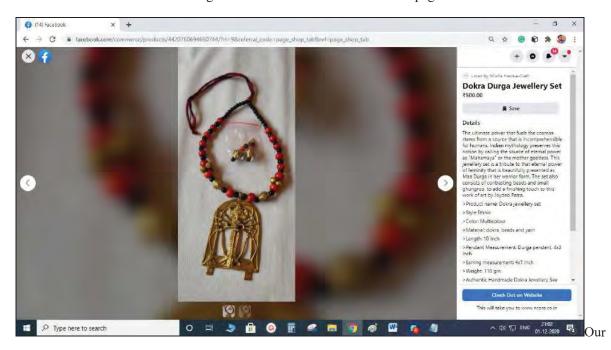


Fig 6. Product Description section in NCoRe Facebook Page

NCoRe Facebook page also comes with the provision of community formation, where artisans get the opportunity to connect with other artisans, who are either pursuing same and different art forms and also with a pool of global consumers. The community part in Facebook is similar to the community we have formed over WhatsApp. However, the Facebook community being open in nature, as opposed to the closed WhatsApp community, is endowed with the capacity to extend the reach of our artisans to a multitude of global consumers, thereby bearing the prospect of ushering concrete socio-economic benefit. Figure 6 is the screenshot of our Facebook community page.

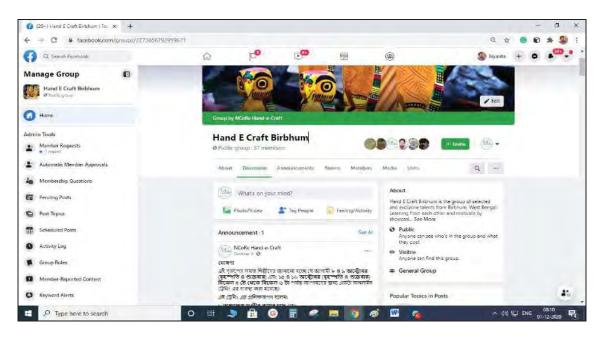


Fig 7. Screenshot of NCoRe Community Page

In today's world, with the rapid and remote penetration of smart phones, every other rural member is whatsapp user. However, the artisans' familiarity with Facebook is not that high. Hence, at present we are engaged in populating our NCoRe Facebook page and simultaneously creating Facebook accounts of individual artisan members, who do not possess one already. Creating a Facebook account and to encourage artisans in participating in purposive exchange through Facebook is a process, which we have just started. With sustained cultivation of community of purpose over Facebook, eventually we can expect concrete socio-economic benefits, where artisans will be able to complete transaction cycles independently through social media sites.

We have also recently undertaken a similar venture as done in Facebook in Instagram also, where we are currently engaged in opening an Instagram page and individual Instagram accounts of member artisans. Familiarizing marginalized artisans with social media operations is a time-consuming process, where we can expect results only eventually.

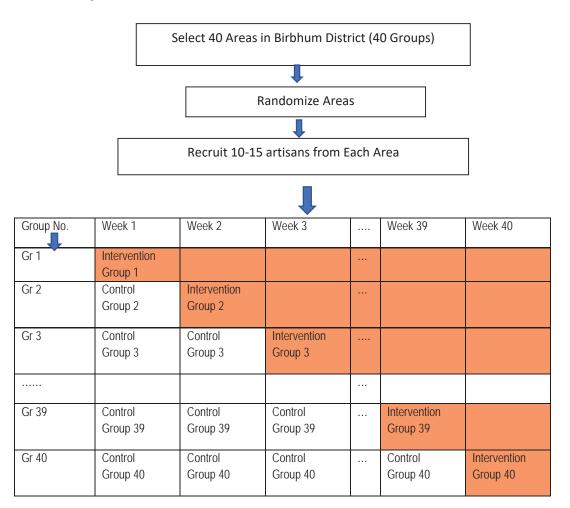
#### 7.2.3 Facebook Page Analytics (https://www.facebook.com/ArtofBengal)

- Total number of products (made by artisans of Birbhum) in Facebook Page: 639
- Total number of Artisans engaged in Facebook Page: 70

Below are some detailed analytics of the NCoRe Facebook page which are collected from the insights section of the page. Insights about a Facebook page provide information about Page's performance, like demographic data about page visitors and how people are responding to posts. We can use Insights to:

- Understand how people are engaging with NCoRe Page.
- View metrics about Page's performance.
- Learn which posts have the most engagement and see when your audience is on Facebook.

of study (figure 11.1). Each group entered the trial at the same time point and acted as a control until such time as they were randomised to crossover from control to intervention.



	Period 1 (1-10 weeks)	Period 2 (11-20 weeks)	Period 3 (21-30 weeks)	Period 4 (31-40 weeks)	Period 5 (41-50 weeks)
Seq A (10 groups x 15 artisans each group)	Pre-study of 10 Groups (A)	First Post-study of Groups (A)	Second Post-study of Groups (A)	,	Fourth Post-study of Groups (A)
Seq B (10 groups x 15 artisans each group)		Pre-study of 10 Groups (B)	First Post-study of Groups (B)	Second Post- study of Groups (B)	Third Post-study of Groups (B)
Seq C (10 groups x 15 artisans each group)			Pre-study of 10 Groups (C)	First Post-study of Groups (C)	Second Post-study of Groups (C)
Seq D (10 groups x 15 artisans each group)				Pre-study of 10 Groups (D)	First Post-study of Groups (D)

The detailed weekly intervention plan is shown in Table 11.2.

Table 11.2 The detailed weekly intervention plan

Place	Group #	Week 60 (15th Feb)	Week 0 (22nd Feb)	Week 1 (1st March)	Week 2 (8th March)	Week 3 (15th March)	Week 4 (22st March)	Week 5 (29th March)	Week 6	Week 7	Week 8	Week 9	Week 10
Nanoor B	Batch 1	CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7
Nanoor C	Batch 2		CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6
Sun C-1 Sun C1 + C2	Batch 3			CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5
Suri C-2 Bolpur Ad Hoc	Batch 4				CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4
Rampurhat Bolpur A-9	Batch 5					CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONECARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3
Labpur-1	Batch 6						CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2
Labpur-3	Batch 7							CREATING BATCH	2ddm,& Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1
Labpur-2	Batch S				1				CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK
Labpur-5	Batch 9									CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONEQUEDING WEE
Labpur-6	Batch 10										CREATING BATCH	Zoom & Prestudy	TRAINING WEEK
Labpur-4	Batch 11				1							CREATING BATCH	Zoom & Prestudy
Labpur-8	Batch 12												CREATING BATCH
Labpur-7	Batch 13												
Surf B	Betch 14												
Bolpur B	Batch 15												
Mayureshwar I-4	Batch 16							-					
Mayureshwar I-3	Batch 17												
Mayureshwar I-2	Betch 15'									1		1	
Mayureshwar I-5	Batch 19												
Mayureshwar I-1	Betch 20												
Suri A	Batch 21												
Salthia-1	Batch 22												
Salthia-2	Batch 23												
Satthia-4	Batch 24												
Salthia-5	Batch 25												
Salthia-3	Batch 26												
Salthia-6	Batch 27												
Nanoor A	Batch 28												
Bolpur C-1	Batch 29									1			
Bolpur C-2	Batch 30											1	
Bolpur A-5	Betch 31												
Bolpur A-3	Batch 32												
Bolpur A-7	Batch 33				T .							1	
Bolpur A-1	Betch 34												
Bolpur A-10	Betch 35												
Bolpur A-4	Betch 36												
Bolpur A-2	Betch 37												
Bolpur A-8	Betch 38												
Bolpur A-11	Batch 39												
Bolpur A-6	Batch 40						1			1		1	

Place	Group #	Week 11	Week 12	Week 13	Week 14	Week 15	Week 15	Week 17	Week 18	Week 19	Week 20
Nanoor B	Batch 1	FIRST POST-STUDY									
Nanoor C	Batch 2	Async Training 7	FIRST POST-STUDY								
<del>Suri C 1</del> Suri C1 + C2	Batch 3	Async Training 6	Async Training 7	FIRST POST-STUDY						-	
Suri C-2_Bolpur Ad Hoc	Batch 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY						
Rampurhat Bolpur A-9	Batch 5	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY	-				
Labpur-1	Batch 6	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY				
Labpur-3	Batch 7	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY			
Labpur-2	Batch 8	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY		
Labpur-5	Batch 9	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY	
Labpur-6	Batch 10	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY
Labpur-4	Batch 11	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7
Labpur-8	Batch 12	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6
Labpur-7	Batch 13	CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5
Suri B	Batch 14		CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4
Bolpur B	Batch 15			CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3
Mayureshwar I-4	Batch 16				CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2
Mayureshwar I-3	Batch 17					CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1
Mayureshwar I-2	Batch 18						CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK
Mayureshwar I-5	Batch 19							CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK
Mayureshwar I-1	Batch 20								CREATING BATCH	Zoom & Prestudy	TRAINING WEEK
Suri A	Batch 21									CREATING BATCH	Zoom & Prestudy
Saithia-1	Batch 22										CREATING BATCH
Saithia-2	Batch 23										
Saithia-4	Batch 24										
Saithia-5	Batch 25										
Saithia-3	Batch 26				0						
Saithia-6	Batch 27										
Nanoor A	Batch 28										
Bolpur C-1	Batch 29										-
Bolpur C-2	Batch 30										
Bolpur A-5	Batch 31										
Bolpur A-3	Batch 32										
Bolpur A-7	Batch 33										
Bolpur A-1	Batch 34										
Bolpur A-10	Batch 35										
Bolpur A-4	Batch 36	*									_
Bolpur A-2	Batch 37										
Bolpur A-8	Batch 38										
Bolpur A-11	Batch 39										
Bolpur A-6	Batch 40		2								

Place	Group #	Week 20	Week 21	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29	Week 30
Nanoor B	Batch 1		SECOND POST-STUDY						-			
Nanoor C	Batch 2	1		SECOND POST-STUDY								
Suri C 1 Suri C1 + C2	Batch 3				SECOND POST-STUDY							
Suri G 2 Bolpur Ad Hoc	Satch 4					SECOND POST-STUDY						
Rampurhat Bolpur A-9	Batch 5	1 1 = = =					SECOND POST-STUDY					
Labpur-1	Batch 6	1/1 = = =						SECOND POST-STUDY				
Labpur-3	Batch 7								SECOND POST-STUDY			
Labpur-2	Batch S								7	SECOND POST-STUDY		
Labpur-5	Batch 9	1							1.		SECOND POST-STUDY	
Labpur-6	Batch 10	FIRST POST-STUDY										SECOND POST-STUDY
Labpur-4	Batch 11	Async Training 7	FIRST POST-STUDY						',			1
Labpur-8	Batch 12	Async Training 6	Async Training 7	FIRST POST-STUDY					1			
Labpur-7	Batch 15	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY							
Suri B	Batch 14	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY						
Bolpur B	Batch 15	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY					
Mayureshwar I-4	Batch 16	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY				
Mayureshwar I-3	Satish 17	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY			
Mayureshwar I-2	Batch 18	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY		
Mayureshwar I-5	Batch 19	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY	
Mayureshwar I-1	Batch 20	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY
Suri A	Batch 21	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 3	Async Training 6	Async Training 7
Saithla-1	Batch 22	CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONEOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 3	Async Training 6
Saithia-2	Batch 23		CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONEDARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5
Salthia-4	Batch 24			CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4
Saithla-5	Batch 25				CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONEOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3
Saithia-3	Batch 26					CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONEDARDING WEEK	TUTORIAL WEEK	Async Training 1	Asyne Training 2
Saithla-6	Betch 27						CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1
Nanoor A	Batch 28							CREATING BATCH	Zoom & Frestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK
Bolpur C-1	Batch 29								CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK
Bolpur C-2	Batch 30									CREATING BATCH	Zoom & Prestudy	TRAINING WEEK
Bolpur A-S	Batch 31										CREATING BATCH	Zoom & Prestudy
Bolour A-3	Batch 32											CREATING BATCH
Bolpur A-7	Betch 33											
Bolpur A-1	Batch 34											
Bolpur A-10	Batch 35											
Bolpur A-4	Betch 36											
Bolpur A-2	Batch 37											
Bolpur A-8	Batch 38											
Bolpur A-11	Batch 39											
Bolpur A-6	Batch 40											1
									-			-

Place	Group #	Week 31	Week 32	Week 33	Week 34	Week 35	Week 36	Week 37	Week 38	Week 39	Week 40
Nanoor B	Batch 1	THIRD POST-STUDY		-					,	1	
Nanoor C	Batch 2		THIRD POST-STUDY								
<del>Suri G 1 S</del> uri C1 + C2	Batch 3			THIRD POST-STUDY							
Suri C-2 Bolpur Ad Hoc	Batch 4				THIRD POST-STUDY						
Rampurhat Bolpur A-9	Batch 5					THIRD POST-STUDY					
Labpur-1	Batch 6						THIRD POST-STUDY				
Labpur-3	Batch 7							THIRD POST-STUDY			1
Labpur-2	Batch S								THIRD POST-STUDY		
Labpur-5	Batch 9									THIRD POST-STUDY	
Labpur-6	Batch 10										THIRD POST-STUDY
Labpur-4	Batch 11	SECOND POST-STUDY									
Labpur-8	Batch 12		SECOND POST-STUDY								
Labpur-7	Batch 13			SECOND POST-STUDY							
Suri B	Batch 14				SECOND POST-STUDY						
Bolpur B	Batch 15					SECOND POST-STUDY					
Mayureshwar I-4	Batch 16						SECOND POST-STUDY				
Mayureshwar I-3	Batch 17	-1-						SECOND POST-STUDY			
Mayureshwar I-2	Batch 18								SECOND POST-STUDY		
Mayureshwar I-5	Batch 19								1	SECOND POST-STUDY	
Mayureshwar I-1	Batch 20					-				1	SECOND POST-STUDY
Suri A	Batch 21	FIRST POST-STUDY				1					
Saithia-1	Batch 22	Async Training 7	FIRST POST-STUDY								
Saithia-2	Batch 23	Async Training 6	Async Training 7	FIRST POST-STUDY			1				
Saithia-4	Batch 24	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY	1					
Saithia-5	Batch 25	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY					
Saithia-3	Batch 26	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY				
Saithia-6	Batch 27	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY			
Nanoor A	Batch 28	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY		
Bolpur C-1	Batch 29	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Asyne Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY	
Bolpur C-2	Batch 30	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY
Bolpur A-5	Batch 31	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Asyne Training 5	Async Training 6	Async Training 7
Bolpur A-3	Batch 32	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6
Bolpur A-7	Batch 33	CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5
Bolpur A-1	Batch 34		CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Asyne Training 2	Async Training 3	Async Training 4
Bolpur A-10	Batch 35			CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3
Bolpur A-4	Batch 36				CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1	Async Training 2
Bolpur A-2	Batch 37					CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK	Async Training 1
Bolpur A-8	Batch 38						CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK	TUTORIAL WEEK
Bolpur A-11	Batch 39						1002200	CREATING BATCH	Zoom & Prestudy	TRAINING WEEK	ONBOARDING WEEK
Bolpur A-6	Batch 40								CREATING BATCH	Zoom & Prestudy	TRAINING WEEK

Place	Group #	Week 41	Week 42	Week 43	Week 44	Week 45	Week 45	Week 47	Week 49	Week 49	Week 50
Nanoor B	Batch 1	FOURTH POST-STUDY									
Nanoor C	Batch 2		FOURTH POST-STUDY								
Suri C 1 Suri C1 + C2	Batch 3	140		POURTH POST-STUDY						,	
<del>Sun G 2</del> Bolpur Ad Hoc	Batch 4				FOURTH POST-STUDY						
Rampurhat Bolpur A-9	Batch 5					FOURTH POST-STUDY	il a			7	
Labpur-1	Batch 6		1				FOURTH POST-STUDY				
Labpur-3	Batch 7							FOURTH POST-STUDY			
Labpur-2	Batch 8								FOURTH POST-STUDY		
Labpur-5	Batch 9									FOURTH POST-STUDY	
Labpur-6	Batch 10										FOURTH POST-STUDY
Labpur-4	Batch 11	THIRD POST-STUDY					7				
Labpur-8	Batch 12		THIRD POST-STUDY								
Labpur-7	Batch 13			THIRD POST-STUDY		Ŷ.	7				
Suri B	Baticn 14				THIRD POST-STUDY						
Bolpur B	Batch 15					THIRD POST-STUDY				, ,	1
Mayureshwar I-4	Batch 16						THIRD POST-STUDY				1
Mayureshwar I-3	Batch 17							THIRD POST-STUDY			
Mayureshwar I-2	Batch 18								THISD POST-STUDY		
Mayureshwar I-δ	Batch 19									THIRD POST-STUDY	
Mayureshwar I-1	Batch 20										THIRD POST-STUDY
Suri A	Batch 21	SECOND POST-STUDY									
Saithia-1	Batch 22		SECOND POST-STUDY								
Saithia-2	Batch 23			SECOND POST-STUDY							
Saithia-4	Batch 24				SECOND POST-STUDY		i i				
Saithía-5	Batch 25		1			SECOND POST-STUDY					
Saithía-3	Batch 26						SECOND POST-STUDY				
Saithia-6	Batch 27							SECOND POST-STUDY			
Nanoor A	Batch 28								SECOND POST-STUDY		
Bolpur C-1	Batch 29									SECOND POST-STUDY	
Bolpur C-2	Baton 30										SECOND POST-STUDY
Bolpur A-5	Batch 31	FIRST POST-STUDY									
Bolpur A-3	Batch 32	Async Training 7	FIRST POST-STUDY							2.	
Bolpur A-7	Batch 33	Async Training 6	Async Training 7	FIRST POST-STUDY							
Bolpur A-1	Batch 34	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY						
Bolpur A-10	Batch 35	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY					
Bolpur A-4	Batch 36	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY				
Bolpur A-2	Batch 37	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY		1	
Bolpur A-8	Batch 38	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST PUST-STUDY		
Bolpur A-11	Batch 39	TUTORIAL WEEK	Async Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY	
Bolpur A-6	Batch 40	ONBOARDING WEEK	TUTORIAL WEEK	Asyne Training 1	Async Training 2	Async Training 3	Async Training 4	Async Training 5	Async Training 6	Async Training 7	FIRST POST-STUDY

# 11.2 Planning and Execution of a Digital Marketing Strategy using Digital Channels

The Indian cottage industry, comprising mainly handicrafts and textiles, has been traditionally known for its exquisite handiwork and a distinct mix of beauty and tradition. However, the advent of the internet and ecommerce have posed stiff challenges. Patrons, past and potential, now prefer the convenience of shopping online. While artisans have tried to themselves shift online, there are few success stories to speak of. Here, we will explore a step-by-step process to redefine the digital marketing strategy for artisans:

Step 1. Build an engaging website – with online payment capabilities (we will discuss that in section 11.3)

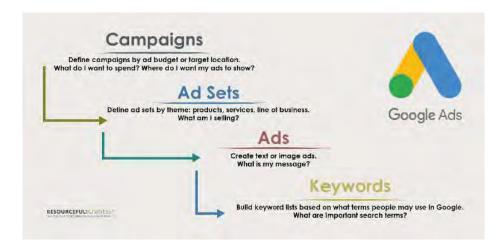
# Step 2. Leveraging social media

Now that we have a running site, we need to leverage it. We need to be active in all social media channeld. Using social media can be divided into two buckets:

# 2a. Pay-per-click Advertising (Google and Facebook)

The power of advertising through both Facebook and Google is sheer customisability. Users pay only when potential customers click on their ads. With proven ROI of upwards of 5x, Google Ads and Facebook Ads are an instrumental tool that can help MSMEs grow inorganically.

https://ads.google.com/home/



# 2b. Embedding business in social media

We have fulfilled the basic requirement of embedding social media in our business by adding direct contact options (such as links to WhatsApp/ Messenger chat). Now we have to do the far more important thing – embed our business into social media.

WhatsApp and Facebook are places where people spend a huge amount of time, especially WhatsApp in India. Through WhatsApp Pay and WhatsApp Business, it is emerging as the new place for people to discover catalogues of new products and greatly increases ease of shopping for customers, just with the help of the mobile number of the business.

https://netolink.com/whatsapp-business/

https://techvirendra.com/whatsapp-payments-in-india-how-to-activate-transfer-money/

# Step 3. Using e-commerce

# 3a. Private players like Amazon/Flipkart

Amazon especially has been aggressively pushing to onboard MSMEs, with special programs and onboarding subsidies for women entrepreneurs, emerging businesses and handicrafts.

https://www.amazon.in/b/?node=16183878031&tag=1AMZT1



# 3b. Government push – Khadi India online portal

The MSME ministry under Modi government has also been trying to prop up MSMEs, especially after last year's *Atmanirbhar* appeals. On 31<sup>st</sup> December 2020, Khadi and Village Industries Commission (KVIC) launched Khadi India's official site, not only for Khadi products, but also all handicraft and other products made by MSMEs. Sellers can register themselves on the platform. And start selling. What is significant is that even Government of India and PSUs will make purchases from here, such as Indian Railways for linen to be used in trains. This platform can be a significant source of demand in coming years with increasing reliance on self-sufficiency.

## https://www.ekhadiindia.com

https://www.goodreturns.in/news/msme-khadi-india-s-official-e-commerce-site-launched-1195950.html

For immediate lead generation: Influencer marketing

## Process to be followed:

- 1. Tie ups with influencers: Try to reach out to social media influencers, and try to create a pro-bono partnership, where influencers will post about the website and its products. Convince influencers for a pro-bono partnership on the grounds of helping rural craftsmen, in addition to the fact that it is a government initiative to help such artisans.
- 2. Send few products to influencers for their use and ask them to vehemently spread the word.
- 3. Identify influencers based on following parameters:
  - a. No of followers >10k
  - b. Fashion/Travel/Leisure focussed

# 11.3 Design and Development of a Prototype Commercial Platform for Artisans using CS-Cart

NCoRe is a social marketplace with an objective to promote the artistic journey of rural handicraft artisans along with their handcrafted products to urban consumers. In order to strengthen the market linkage of the rural artisans, it is important to promote them through some online channels. Direct transactions between artisan and customers regarding any product selling or purchase will require standard payment handling and proper tracking mechanisms. Standard payment handling mechanisms include integration of payment gateway, UPI, Smart cards (debit and credit card), mobile banking etc. Since NCoRe is a research project and funded by the Department of Science and Technology (DST), Govt. of India, that's why the NCoRe platform cannot manage or handle the monetary transaction between rural handicraft artisans and customers.

But to increase the sales volume of the rural artisans, it is very important to enable the artisans in such a platform where all kinds of activities (which includes inventory management, vendor management, logistics tracking, payment utilization etc.) regarding the product selling can be performed. As a solution, we have plan to design and develop a *commercial prototype version* of NCoRe in a multivendor eCommerce platform named CS-Cart.

A multivendor marketplace is an e-commerce platform that empowers multiple vendors' i.e. rural artisans to sell their products from one storefront. CS-Cart multivendor software supports an unlimited number of artisans. It helps an artisan to market their products online, even globally. In CS-Cart, every seller (ie artisan) has their own backend panel and a storefront: their own online store with all the necessary eCommerce features.

# **Key Features in CS-Cart Multi-Vendor Platform (under development):**

- Mobile App: Offer a more convenient way to buy from CS-Cart online marketplace. With a mobile app for iOS and Android, customers can browse CS-Cart marketplace, add products to wish lists and carts, and pay via offline payment method or PayPal Express Checkout. All the data is synced with virtual mall: if it change categories, products, users, carts, wish lists, orders, and other data, the changes will affect the app. Admin are free to customize the look and feel of application by changing a logo and colors. When the app is ready, it will upload to Google Play and App Store and keep it up to date.
- Advanced Artisan Payout System: Automate payouts to artisans to save time. Payments management is the most significant part of every online marketplace. It has to deal with commissions and distribution of payments between artisans every day. CS-Cart supports automatic or manual artisan payouts. Automatic payouts are carried out via a built-in "PayPal for Marketplaces" payment method. It distributes the payment between artisans and sends commissions to respective bank account. With PayPal for Marketplaces customers can pay for their orders in bulk—payments are not split into multiple steps when a customer buys products from more than 5 artisans.
- Common Products for Artisans: Make marketplace catalog look nice, clean, and uniform. With the Common Products for artisans feature, it can forbid artisans from creating new products. Enable them to only use listings created and designed by platform owner. In such listings, artisans can only set their prices and quantity. Of course, it is free to allow artisans to add their products as well.
  - The Common Products for artisans function adds a comparison table to a product page. If a product is sold by several artisans, a customer can compare prices and choose the best listing.
- Configurable Artisan Plans: The platform owner can earn extra with artisan's monthly payments. In the Multi-Vendor system, it will allow to create subscription plans for artisans with different conditions and limitations. Artisan plans is a flexible tool that helps to increase revenue. First of all, apart

from commissions, it allows to take a monthly fee from artisans for selling in CS-Cart. Secondly, with artisan plans, commissions are pre-set for each plan, and a new artisan just picks the most suitable option. The artisan plans functionality will save from troubles with setting commissions for artisans manually.

- Category Commissions: Attract more artisans by offering affordable commissions on low-margin products. Popular products such as facemask, handbags are sold with a low margin. To attract artisans selling these kinds of products, set a lower commission for low-margin product categories. On the other hand, it will allow setting a higher commission for high-margin products such as heavy katha stitch saree, jewellery and getting more income from your artisans.
- Multiple Levels of Administrative Access: Running a large-scale marketplace is much easier when
  delegating certain duties with staff members. The Multi-Vendor platform allows registering employees
  and set different levels of access to the admin panel.
- **Flexible Product Approval System:** Make product management simple and efficient. In Multi-Vendor, product approval is flexible and handy at the same time. It will have 3 options:
  - ✓ Let your artisan's showcase products without moderation.
  - ✓ Check every product added by artisans.
  - ✓ Allow certain artisans to add products without moderation.
- Advanced Order Management System: Offer customers the most convenient checkout process. CS-Cart eCommerce marketplace will contain thousands of products. What if a customer orders 2 products from different artisans? In Multi-Vendor, customers don't need to place multiple orders to buy goods from several artisans. They place only one order and make a single payment in this case. From the admin panel side, 2 separate orders are created, and each artisan can see an order that contains only his or her products.
- **Detailed Statistics and Reports:** It is impossible to run a successful marketplace without deep analysis based on statistics and reports. What does Multi-Vendor offer in terms of statistics? Multi-Vendor is integrated with Google Analytics. This service generates detailed statistics about website visitors. It gives rich insights into website traffic and marketing effectiveness. Another built-in analysis tool is called "Sales reports". It gives detailed statistics on the sales in marketplace. Statistics may be represented in a form of graphical or tabular charts. For convenience, charts are grouped into separate reports.

# APPENDIX I

# A Detailed Report on Analyses of Community Interactions through WhatsApp

# From Artisans' End

Date	Response Sent By	Pattern of Response	Reply to Response
7 <sup>th</sup> July, 2020	Tasnim Handicrafts (9126397343)	Tasnim Handicrafts requested the RO to add his friend Nasim Akhtar in the group. Forwarded the said person's number	Nasim Akhtar was added to the group
30 <sup>th</sup> July 2020	Deepti Saha (8167343605)	Sent her self video, which has been uploaded in NCoRe  Sent her product photos (Hand painted T-shirt, Panjabi	Tasnim Handicrafts (9126397343) appreciated the products and enquired about
30 <sup>th</sup> July, 2020	Santiniketan Sarees	and Canvas Paintings)  Sent 11 photos of kantha stitched salwar kameez suit	Deepti's address No response
31st July, 2020	(6296102355) Satyajit Mondol (7407119937)	piece Sent the photo of his business card and one sample photo of his hand-painting and natural dye on tussar silk	No response
31st July, 2020	M.D. (7679319587)	Sent 11 photos of kantha stitched skirts	No response
31st July, 2020	Biton (7865034584)	Sent 13 photos of hand printed ladies kurti	Amitayu Mukherjee appreciated the photos
31st July, 2020	Manas Dutta (7384153994)	Sent 10 photos of kantha stitched kurta, salwar kameez set, skirt and sent his contact number separately so that interested people can contact him	No response
31st July, 2020	Biswajit Saha (7001710187)	Sent 18 photos of kantha stitched bags	No response
9 <sup>th</sup> August, 2020	Satyajit Mondol (7407119937)	Sent one photo of his hand-painting and natural dye on tussar silk	No response
11 <sup>th</sup> August, 2020	Deepti Saha (8167343605)	Enquired if anyone in the group has plain or monochrome panjabi	Urmila Das (9732168059) replied yes and further enquired regarding the material (khadi or cotton) required
11th August, 2020	Rinku Das (9851171831)	Sent photos of dokra jewelleries and hair accessories	No response
11th August, 2020	Subhas Dhara (8759334881)	Sent photos of jewelleries	No response
11 <sup>th</sup> August, 2020	Debalika Dalal	Sent one photo of a jewellery set. Said that the same piece is available in varied combinations	Madhu Da (9434633176) enquired about the wholesale rate  Member of RO appreciated the product picture
11 <sup>th</sup> August, 2020	India (7001915162)	Posted his requirement of Panjabi and gave his contact details (9126397343) for artisan members to contact him	Sraboni Sarkar (9614226103) responded and enquired further on the quantity, size and colour of Panjabi required
11 <sup>th</sup> August, 2020	B.S. (7864932912)	Posted his wholesale requirement of Kantha stitched gachi tussar saree	Sk Saifuddin shared his contact details (7718331620) and 27 photos of kantha stitched sarees
11 <sup>th</sup> August, 2020	Sk Saifuddin (7718331620)	Posted 27 photos of kantha stitched sarees in response to B.S.'s requirement	Biswa Shilpa Kutir (8906868131) appreciated the sarees and enquired about Saifuddin's address  Satyajit Mondol replied that the posted sarees are not tussar and
11 <sup>th</sup> August, 2020	Sk Saifuddin (7718331620)	Posted photos of kantha stitched gachi tussar sarees in response to Satyajit Mondol's requirement	asked Saifuddin to send pictures of tussar sarees  Member of RO appreciated the product picture

			B.S. shared his contact number (8967136196) and asked to call him the next day at 10am
			Satyajit Mondol seemed satisfied with the material of the sarees as depicted in the photos sent in this lot
12th August, 2020	Rinku Das (9851171831)	Sent photos of dokra jewelleries	No response
12 <sup>th</sup> August, 2020	Manas Dutta (7384153994)	Sent photos of kantha stitch salwar kameez piece and sarees	No response
12 <sup>th</sup> August, 2020	Tasnim Handicrafts (9126397343)	Shared his contact details and address and sample photos for contacting him regarding any requirement on Panjabi, kurti and top designing, cutting and stitching	Biswa Shilpa Kutir asked for more photos, which Tasnim Handicrafts posted eventually
12 <sup>th</sup> August, 2020	Sraboni Sarkar (9614226103)	Posted photos of handloom sarees	No response
18th August, 2020	Debabrata Sengupta (8967136196)	Posted requirement for kantha stitch batua bag	No response
19th August, 2020	Debabrata Sengupta (8967136196)	Posted his urgent requirement for appliqué kurti with photo and wholesale price	No response
24 <sup>th</sup> August, 2020	Sannasi Das (7865072811)	Posted photos of leather bags	Member of RO appreciated the product pictures
24 <sup>th</sup> August, 2020	Biswa Shilpa Kutir (8906868131)	Informed he has viewed his profile (Dipak Biswas) and liked it immensely. However, rectified his pin	Member of the RO took note of the change in pin and eventually rectified the mistake in the website
26 <sup>th</sup> August, 2020	Ski needle work (9775234717)	Expressed his concern that this group should only comprise of artisans and conversations must be all business oriented	Member of RO assured the same
27 <sup>th</sup> August, 2020	Madhab Pal (9679455534)	Posted 77 pictures of kantha stitch sarees	(9735145323) appreciated the photos and enquired about Madhab Pal's address and the type of materials in which he does kantha stitch.
28 <sup>th</sup> August, 2020	Debolina (9474395558)	Posted 10 photos of hand batik uttorio	Biswa Shilpa Kutir, Sourav Halder, Sannasi Das appreciated the photos Debabrata Sengupta enquired about the price
28 <sup>th</sup> August, 2020	Mita Das (8759077388)	Posted 19 photos of kantha stitch salwar kameez piece	Madhab Pal enquired about the price
28 <sup>th</sup> August, 2020	(9475852020)	(9475852020) requested the RO to add Nabirul Mallick's number (8944820052) in this whatsapp group	RO added the number to the group
31st August, 2020	Prashun Nasipuri (9547017742)	Posted one photo of block printed saree	Satyajit Mondol sent his own hand printed product photo in response to assert the difference between hand and block print. Satyajit Mondol then asked Prashun for more photos, which he sent eventually
31st August, 2020	Kshama Pal	Posted photos of kantha stitched jackets, blouse piece,	Madhusudan Biswas enquired about Prashun's address  Member of RO appreciated the
31" August, 2020	9547503328)	kantha stitched sarees	product pictures
			Shibani Dutta enquired about the price of a kantha stitch saree and blouse piece
31st August, 2020 31st August, 2020	Madhab Pal Prashun Nasipuri	Posted one photo of kantha stitch saree with price Posted pictures of hand printed sarees	No response Satyajit Mondol (whose expertise is hand painting) commented that the products are not upto the mark

(Thursday Morning)	Part II	https://www.youtube.com/watch?v=v9OLF3KLd5g
Video 8.5 (Friday Morning)	Introduction to online financial transaction	যে কোনো অনলাইন ব্যবসা করতে হলে আপনাকে জানতে হবে অনলাইন-এ টাকা-পয়সা কিভাবে লেনদেন করবেন। ইন্টারনেটের সাহায্যে আপনি সহজেই এক একাউন্ট থেকে অন্য একাউন্টে টাকা পাঠাতে বা গ্রহণ করতে পারবেন। নিচের ভিডিও টা দেখুন। https://www.youtube.com/watch?v=L8fOB IaaAE
Video 8.6 (Saturday Morning)	How to handle digital cash: Some examples	ইন্টারনেটের মাধ্যমে কাউকে টাকা পাঠাতে গেলে আপনাকে আপনার একাউন্টে "ইন্টারনেট ব্যাঙ্কিং" পরিষেবা টি উপলব্ধ থাকতে হবে   এছাড়া আপনি UPI ব্যবহার করে অনলাইন এর মাধ্যমে টাকা আদান প্রদান করতে পারেন   কিছু জনপ্রিয় UPI হলো গুগল-পে (Google Pay), ফোন-পে (Phone Pay), পেটিএম (PayTm) ইত্যাদি   অনলাইন-এ টাকা-পয়সা কিভাবে লেনদেন করবেন, সেটা জানতে এই ভিডিও-টি দেখুন: <a href="https://www.youtube.com/watch?v=qG5jw0bUvQM">https://www.youtube.com/watch?v=qG5jw0bUvQM</a>
Video 8.7 (Sunday Morning)	Cyber-crime and how to be Safe from Cyber Attacks	ডিজিটাল পেমেন্টর সঙ্গে বাড়ছে প্রতারণা, দেশে ৫০০ % বৃদ্ধি সাইবার ক্রাইমের সাইবার ক্রাইম কি ? কীভাবে নিজেকে রক্ষা করবেন? সেটা জানতে দেখুন: https://www.youtube.com/watch?v=BBNPbXxyz1Y https://www.youtube.com/watch?v=v-vxF3f1Abk

# APPENDIX V: TRAINING MATERIAL

(i) Digital Competency Training (Monday);(ii) Training on Photography and Videography (Wednesday);(iii) Training on Product Development and Market Trends Analysis (Friday)

# বিষয়:

বীরভূমের কারিগরদের দক্ষতা এবং তাদের হস্তশিল্পের বাজার উন্নত করতে ইন্টারনেট ও স্মার্টফোনের ব্যবহার

সোশ্যাল ইনফোরম্যাটিক্স রিসার্চ গ্রুপ , ইন্ডিয়ান ইনস্টিটিউট অফু ম্যানেজমেন্ট কলকাতা

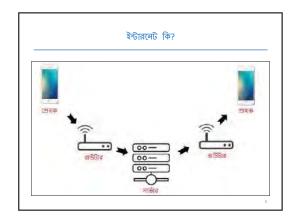
এবং DC-হ্যান্ডিক্রাফট, বর্ধমান ও ডিস্ট্রিক্ট ইন্ডাস্ট্রিস সেন্টার (DIC), বীরভূম- এর যৌথ উদ্যোগে .এবং

ডিপার্টমেন্ট্ অফু সাইন্<u>সূ এ</u>ন্ড টেকনোলজি (DST), গভর্নমেন্ট অফ ইন্ডিয়ার তত্ত্বাবধানে

- ট্রে**নিং এর রূপরেখা** কিভাবে শ্রার্টফোন এবং ইন্টারনেটকে দৈনন্দিন ব্যবসার কাজে ব্যবহার করা যায়
- কিভাবে ই-বাণিজ্য উদ্যোগে অংশগ্রহণ করা যায় এবং কিভাবে আর্টফোনকে ব্যবসার বিজ্ঞাপন এবং বিক্রির সম্ভাবনা প্রসারণ করতে ব্যবহার করা যায়
- আমরা আমাদের প্র্যাটফর্ম Noake তে আপনাদের পরিচয় করিয়ে দেব, যেখানে আপনাদের ডিজিটাল দোকান তৈরি করতে পারবেন, প্রশিক্ষণ নিতে পারবেন এবং বুটিক মালিক প্রশিক্ষক এবং অন্যান্য সরকারী এবং বেসরকারী এজেন্টদের সাথে সরাসরি সংযুক্ত যতে পারবেন
- কিভাবে ডিজিটাল মাধ্যম ব্যবহার করে শিল্পীরা কিভাবে নতুন প্রোডাক্ট এবং ডিজাইন এর ধারনা পেতে পারেন
- ডিজিটাল মাধ্যমের সাহায্যে পণ্য প্রদর্শন করে কীভাবে সমগ্র বিশ্বের ক্রেতাদের কাছে পৌঁছনো
- সোমবার: অনলাইনে ব্যবসা বাণিজ্য করার প্রাথমিক ধারণা
- বুধবার: কিভাবে ছবি এবং ভিডিও তুলে অনলাইন বা ডিজিটাল দোকান সাজাতে হয় সেই সম্বন্ধে ধারণা
- **শুক্রবার:** আন্তর্জাতিক ও দেশীয় বাজারের চাহিদা অনুযায়ী প্রোডাক্ট ও তার ডিজাইনের মান উন্নতিকরণ

# কেন এই আয়োজন ব্যবসা করতে গেলে যে বিষয়গুলি মাথায় রাখতে হয়, তা হলো: নতুন প্রোডাক্ট / নতুন ডিজাইন আইডিয়া অন্যান্য শিল্পীদের শিল্পকর্ম ও তার দাম সম্বন্ধে ধারণা(এথানকার অথবা অন্য কোনো জায়গার) বাজারের প্রবণতা / ক্রেতার প্রয়োজনীয়তা কোখায় বিক্রি করবো / কিভাবে বিজ্ঞাপন করবো ব্যবসা সংক্রান্ত প্রকল্প / সরকারি পরিকল্পনা নতুন দক্ষতা বৃদ্ধির (skill development) উপায়





এবারে প্রশ্ন হলো ইন্টারনেট কেন প্রয়োজন এবং এর সাহায্যে আমরা কি কি করতে পারি? ইন্টারনেট যেহেভূ সারা পৃথিবী জুড়ে ছড়িয়ে আছে ভাই এর সাহায্যে আমরা বিভিন্ন ধরনের কাজ কম্পিউটার বা স্মার্টফোল থেকে করতে পারি৷ •বিভিন্ন প্রকার বিনোদন মূলক কাজ যেমন সিনেমা দেখা, গান শোনা, ভিডিও গেম খেলা ইত্যাদি (Entertainment) [www.youtube.com] •অনলাইনে পড়াশোনা করা (Online Education) ■বিভিন্ন তখ্য অনুসন্ধান (Search) [www.google.com] •একটি ভাষা খেকে অন্য ভাষায় অনুবাদ [https://translate.google.com/] ■বিভিন্ন প্রকার সোশ্যাল মিডিয়া ওয়েবসাইটের মাধ্যমে বন্ধুদের সাখে যোগাযোগ রাখা (Communication using Social Media) [www.facebook.com]

# এবারে প্রশ্ন হলো ইন্টারনেট কেন প্রয়োজন এবং এর সাহায্যে আমরা কি কি করতে পারি?

- ব্যাংকের বিভিন্ন প্রকার কাজ ইন্টারনেটের মাধ্যমে করা যায় (e-Banking) [www.onlinesbi.com/]
- ইন্টারনেটের মাধ্যমে আমরা ঘরে বসে বিভিন্ন পণ্য কেনাবেচা করতে পারি (e-Commerce Lyww.amazon.com)
- ইন্টারনেটের সাহায্যে আমরা চাকরি সংক্রান্ত বিভিন্ন তথ্য জানতে পারি (Job search)
  [https://www.upwork.com/]

  [https://www.upwor
- এঘাড়াও ইন্টারলেটের মাধ্যমে টেলের টিকিট কাটা (Online Ticket Reservation), অন্য কোল জামগ্য সম্বন্ধে বিশ্বারিত তথ্য জালা, গবেরণা করা (Research), থাবার অর্ডার কর (Food Ordering), থবর শোলা (News) ইত্যাদি

ইন্টারনেটও স্মার্টফোনকে কিভাবে আমরা আমাদের ব্যবসার কাজে লাগাতে পারি?

- ইন্টারনেটে ভাল ভাল প্রশিক্ষণ ভিডিও পাওয়া যায়। নিজের পেশাগত দক্ষতা বাড়ানোর জন্য ইন্টারনেট থেকে ভাল ভাল প্রশিক্ষণ ভিডিও দেখে নিজে শেখা ও অন্য শিল্পী বন্ধুদের শেখানো যায়
- ইণ্টারনেট খেকে অনেক ভাল ভাল ডিজাইনের ধারণা পাওয়া খেতে পারে। পেগুলো মাথায় রেখে ও বাজারের চাহিদা অনুযায়ী আধুনিক ডিজাইনের পণ্য তৈরি করলে ও সেই ডিজাইন অন্যান্য শিল্পী বন্ধুদের সঙ্গে বিনিময় করলে আপনার উৎপাদিত পণ্যের বাজার বড়েতে পারে
- ইন্টারনেটের মাধ্যমে নিজের উৎপাদিত **পণ্যের বিজ্ঞাপন** করে দেশ বিদেশের খরিদ্দারদের জানানো যায় ও **পণ্য অন-লাইনে বিক্রি** করা যায়
- ই-মেল, ফেসবুক, হোয়াটস-আপের মাধ্যমে **অন্যের সঙ্গে যোগাযোগ রাখা** যায়

অর্থাৎ.....

#### ইন্টারনেটও স্মার্টফোনকে কিভাবে আমরা আমাদের ব্যবসার কাজে লাগাভে পারি?

নতুন প্রোডাক্ট/ নতুন ডিজাইন আইডিয়া

অন্যান্য শিল্পীদের শিল্পকর্ম ও তার দাম সম্বন্ধে ধারণা(এথানকার অখবা অন্য কোনো জাশগার)

বাজারের প্রবণতা / ক্রেতার প্রয়োজনীয়তা

কোখায় বিক্রি করবো / কিভাবে বিজ্ঞাপন করবো

ব্যবসা সংক্রান্ত প্রকল্প / সরকারি পরিকল্পনা

নতুন দক্ষতা বৃদ্ধির (skill development) উপায়

#### স্মার্টফোন এবং ইন্টারনেটের কিছু প্রাথমিক ব্যবহার

আর্থনি আপনার স্মাটিভোল এবং ইন্টারলেটকে দৈনদিন এবং ব্যবসার কাজে ব্যবহার করতে হলে এর সম্বন্ধে প্রাথমিক কিছু ধারণা রাষতে হবে। এজনা প্রথমে আমরা স্মাটিভোল এবং ইন্টারলেটের কিছু প্রাথমিক ব্যবহার নিয়ে আলোচনা করব,যেমন

•ইন্টারনেটে গুগল (Google) এর সাহায্য কিভাবে নিজের প্রয়োজনীয় তথ্য খুজে বের করবেন

•ইউটিউব (YouTube) এর সাহায্যে পছন্দের ভিডিও খুঁজে বের করা

•ইন্টারনেটের সাহায্যে অনলাইনে পড়াশোনা করা

•সোশ্যাল মিডিয়া এবং দৈনন্দিন জীবনে তার ব্যবহার

•গুগল ম্যাপের সাহায্যে কোন অচেনা জাম্বগা খুঁজে বের করা •বিভিন্ন প্রকার ই-কমার্স ওমেবসাইট ও তাদের কার্য পদ্ধতি

•ইন্টারনেটের মাধ্যমে অর্থ লেনদেন করা

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#### গুগল (Google) এর সাহায্য প্রয়োজনীয় তথ্য থুজে বের করা

গুগদের সাহামে আর্থনি আপনার পদ্দন্দমতো তিনিস ইটারনেট থেকে খুঁতে পেতে পারে এজন্য আপনাকে নির্দিষ্ট কিছু শ্বদ জালতে হবে বার দ্বারা আপনি সার্চ করতে পারেন পারেন বেমন কাঁখা স্টিচ শান্তি বা তোকার অুবোদারি ইজ্যাদি

•গুগলের সাহায়ে তথা খুজে বের করতে গেলে আপনাকে ইংরেজিতে বা বাংলায় আপনি যা খুঁজতে চাইছেন তা লিখতে হবে

্বাচিক, কাঁখান্টিচ, Batik Work, Katha Stitch...) •এরপর গুগল আপনার লেখার ওপর ভিস্তি করে ইন্টারনেট থেকে সার্চ করে প্রয়োজনীয় তথ্য দেখাবে

দেখাবে -এছাড়া আপনি লেখার পরিবর্তে গলার ভয়েস এর সাহায্যে সহজে ইন্টারনেট থেকে প্রয়োজনীয় তথ্য যুঁজে বের করতে পারেন

আগনি কিভাবে গুগল এ সার্চ করবেন আমরা এখন ভার কিছু উদাহরণ দেখব....

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#### ইউটিউব (YouTube) এর সাহায্যে পছন্দের ভিডিও খুঁজে বের করা

ইউটিউব হল জনপ্রিয় ভিডিও শেয়ারিং প্লাটফর্ম যেখানে আপনি সহজেই আপনার পছন্দ মত যে কোন ভিডিও [যেমন সিনেমা, গান ইত্যাদি] দেখতে বা শুনতে পারেন

•স্মার্টফোনে সিনেমা বা যে কোন গানের ভিডিও দেখতে হলে আপনাকে প্রথমেই ফোনে ইউটিউব অ্যাপ টি খুলতে হবে

্ইউটিউব অ্যাপ এর একদম উপরে সার্চ বন্ধে আপনি যেই গান বা সিনেমা দেখতে চাইছেন তার নাম লিখতে হবে

•এরপর আপনি যেই গান বা সিনেমা দেখতে চান তার উপরে টাচ করলে সেটি দেখতে পাবেন

আপনি কিভাবে ইউটিউব এ সার্চ করে বিভিন্ন প্রকারের ভিডিও খুঁজে বের করবেন আমরা এখন ভার কিছু উদাহরণ দেবব....

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#### वाःना ভाষाর সাহায্যে ইন্টারনেট এর ব্যবহার

- ✓ G-Board Key-Board ✓ Hi-Translate
- GBoard কীবোর্ড সেটিংস এবং ব্যবহার https://www.youtube.com/watch?v=7nKBYQrqtkk
- Hi Translate অ্যাপ এর ব্যবহার
   https://www.youtube.com/watch?v=wJCLnDUauEA

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#### ইন্টারনেটে কিভাবে কোন একটি নির্দিষ্ট ওয়েবসাইট খেকে আপনি তথ্য খুজে বের করবেন

Slide-14 (Finding Content from Website)

https://www.youtube.com/watch?v=ttkcoxa\_wSA

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#### সোশ্যাল মিডিয়া এবং দৈনন্দিন জীবনে তার ব্যবহার

https://www.youtube.com/watch?v=yO5Dp\_6\_NOE (Digital Marketing Intro)

- সোশ্যাল মিডিয়ার সাহায্যে আপনারা সহজেই আপনাদের পছন্দের তথ্য নিজের বন্ধুদের সাথে বা পরিবারের লোকজনের সাথে শেয়ার করতে পারেন।
- এছড়ো সোশ্যাল মিডিয়াকে আপনারা আপনাদের ব্যবসার কাজে ব্যবহার করতে পারেন। এখানে আপনারা খুব সহজেই আপনাদের তৈরি করা বিভিন্ন প্রকার প্রোডাক্টের ছবি বা তার বিবরণ আপনার বন্ধুদের সাথে শেয়ার করতে পারেন।

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#### ফেসবুকের মাধ্যমে এ ব্যবসার প্রচার এবং প্রসার

কেসবুকের মাধ্যমে আগনি থুব সহজেই আদলার বাবসার প্রচার এবং প্রসার করতে পারেন -এ জনা আদলাকে প্রথমে কেসবুকে একটি আকোউন্ট খুলতে হবে এবং কেসবুকে একটি পেজ বালাতে হবে

এক্ষেত্রে বলে রাখা ভালো ফেসবুকে পেজ টি হল আপনার একটি নিজয় ডিজিটাল দোকান যেখানে আপনি আপনার গছন্দমভ গ্রোডাক্ট এর ছবি ভার বিশ্বারিত বিবরণ এবং দাম প্রদর্শন করতে পারবেন

https://www.facebook.com/ArtofBengal





ই-বাণিজ্য উদ্যোগে অংশগ্রহণ এবং

স্মার্টফোনকে ব্যবসার বিজ্ঞাপন এবং বিক্রির সম্ভাবনা প্রসারণ করতে ব্যবহার করা

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#### বিভিন্ন প্রকার ই-কমার্স ওয়েবসাইট ও তাদের কার্য পদ্ধতি

# $https://www.youtube.com/watch?v = JvIw0k4yL7w \; (\text{E-Commerce Intro})$

- ইন্টারনেটের সাহাযো ব্যবসা করাকে অনলাইন বিজনেস বা ই-কমার্স বলা হয়। এই অনলাইন ব্যবসার ক্ষেত্রে ই-কমার্স সংস্থাগুলি যো মূলত ওয়েবসাইট ভিত্তিক) গুরুত্বপূর্ণ ভূমিকা গালন করে থাকে।
- প্রখনে আমরা একটু জেনে শিই-কমার্স জিনিসটা ঠিক কি?

   ইলেকটনিক কমার্স বা ই-কমার্স বা ই-বার্শিজ্ঞা একটি বাণিজা ক্ষেত্র যেখানে কোনো
  ইলেকটনিক সিণ্টেম (মূলত স্লাট কোন বা কম্পিউটার) এর মাধ্যমে এবং ইটারনেটের সাহাব্য
  পণ্য ক্রম/ বিক্রম হয়ে থাকে।
- পণ্য বিক্রি করতে যেমন দোকান লাগে, ই-কমার্যেও ভা-ই। ই-কমার্য ওয়েবসাইট এ প্রভিটি বিক্রেভার একটি করে ডিজিটাশ দোকান খাকে যেখালে সমস্ত্র প্রোভান্ট, ভার বিস্তারিত বিবরণ এবং দাম সহ প্রদর্শন করা যায়।

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# ই-কমার্স এর সাহায্যে আপনি আপনার প্রোডান্ট বিক্রি করতে চাইলে কি কি জিনিস আপনাকে জানতে হবে

- ই-কমার্সের যেহেতু ক্রেতার কাছে সরাসরি প্রোডাক্ট দেখার সুযোগ নেই তাই আপনাকে আপনার প্রোডাক্টের খুব ভালো ছবি দিতে হবে ষাতে ক্রেতা সরাসরি আপনার প্রোডাক্ট সম্বন্ধে ধারণা করতে পারে
- আপনাকে আপনার প্রোডাক্ট এর সম্বন্ধে কিছু কথা লিখতে হবে যাতে ক্রেতা সরাসরি সেই লেখা পড়ে আপনার প্রোডাক্ট সম্বন্ধে জানতে পারে
- অর্ডার পেলে প্রোডাব্ট ডেলিভারি করতে কতদিন সময় লাগবে সেটা আপনাকে জানতে হবে
- ই-কমার্স এর ক্ষেত্রে ক্রেতা যেহেতু সারা বিশ্বে ছড়িয়ে রয়েছে সেজন্য আপনাকে ইংরেজিতে লিখতে বা পড়তে জানতে হবে



# স্মার্ট ফোনের সাহায্যে ইন্টারনেটের মাধ্যমে ব্যবসা করার প্রয়োজনীয় ধারণা ..... Become an Amazon (A) seller \* 8 9 8 6 8 8

#### স্মার্ট ফোনের সাহায্যে ইন্টারনেটের মাধ্যমে ব্যবসা করার প্রয়োজনীয় ধারণা

স্মার্ট ফোনের সাহায্যে ইন্টারনেটের মাধ্যমে ব্যবসা শুরুর আগে প্রথমে আপনাকে মার্কেটের হালচাল সম্পর্কে জানতে হবে। আর এইজেন্য আপনাকে নিম্নোক্ত বিষয়গুলাতে জোর দিতে হবে।

- মার্কেটে বর্তমানে কোন পণ্য বা কোন নির্দিষ্ট প্রোডাক্ট এর চাহিদা খুব বেশি আছে
- কাস্ট্যার বা ক্রেতার চাহিদা
- কাস্টমাররা কোন পণ্যগুলো সাধারণত ই-কমার্স সাইট খেকে কিনে থাকে,
- তারা কীভাবে এবং কোন মাধ্যমে পণ্যগুলো ডেলিভারি নিতে পছন্দ করে,
- বিল পরিশোধের ক্ষেত্রে কোল মাধ্যমে ভারা শ্বাচ্ছন্দ্য বোধ করে থাকে,
- কোন পণ্য কভদিনের মধ্যে ডেলিভারি দেওয়া হয়ে থাকে,
- কোল পরিবহলের মাধ্যমে পণ্য ডেলিভারি করা হযে থাকে.

\*How to buy from Amazon: https://www.youtube.com/watch?v=OZ6SpM4vKDE

•Amazon Seller Account (https://www.amazon.in/s?me=A12JKHC2S8V0BE&marketplaceID=A21TJRUUN4KGV)

#### ইন্টারনেটের মাধ্যমে অর্থ লেনদেন করা

#### Online Finance Intro: https://www.youtube.com/watch?v=L8fOB\_IaaAE

করোলাভাইরাসের কারণে সামাজিক দুরত্ব বজাস রাখতে গ্রাহাকরা বাদকে শাশ্যন যাওয়া কমিয়েছেন। ইন্টারলেট ব্যাহকিং ব্যবহার করে আর্থিক লেনদেন করছেন আগের চেয়ে বেশি গ্রাহক। ইন্টারলেটের সাহাযো আপনি সহজেই এক একাউন্ট খেকে অন্য একটেন্টে টাকা পাঠাতে বা গ্রহণ

সমত নামংশা ইনির্মানের মাধ্যমে কাউকে টাকা পাঠাতে গোল আপনাকে আপনার একাউটে "ইন্টারানট ব্যাছিং" গরিবেবা টি উপলব্ধ থাকতে হাব এখনো আপি IUP বাবংহার করে অনলাইন এর মাধ্যমে টাকা আদান প্রণান করতে পারেন। কিছু অনপ্রিয় UPI হলা গুগনংশ (Google Pay), ফোনংগ (Phone Pay), শেটিএম (Pay'Im) ইত্যাদি







#### ইন্টারনেটের মাধ্যমে অর্থ লেনদেন করা

ভবে বর্ডমানে কিছু জালিয়াভির কারণে আপনাকে অভিরিক্ত সভর্ক খাকতে হবে এই ধরনের কাজ করার সময়, যেমন

•ডিজিটাল লেনদেনের ক্ষেত্রে প্রভ্যেকের উচিত কোনো বিশ্বাসযোগ্য ব্রাউজার ব্যবহার করা।

ডেবিট কার্ডের লেলদেনের তথ্যগুলি নিয়মিত যাচাই করুল

•ডিজিটাল আর্থিক লেনদেনের জন্য 'https' নিরাগদ ওয়েবসাইট ব্যবহার করুন যা স্মার্টফোন এবং ইন্টারলেটের মধ্যে সুরক্ষিত যোগাযোগ লিশ্চিত করে

শকালা ব্যক্তির সাখে ভার ডিজিটাল ব্যাঞ্চিং পাসওয়ার্ড, OTP বা ওয়াল টাইম পাসওয়ার্ড, পিন, সিভিভি এবং ইউপিআই গিলের ভখাও কারোর সাথে শেয়ার করা একবারেই উচিত নয়। এই ধরালর ভখোর সাহাখ্যে ব্যাকে ব্যক্তির পরিভ্রে যাচাই করান্ত সঞ্জম হয়।

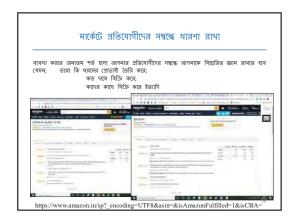
ডিজিটাল মাধ্যম ব্যবহার করে শিল্পীরা কিভাবে নতুন প্রোডাক্ট এবং ডিজাইন এর ধারনা পেতে পারেন

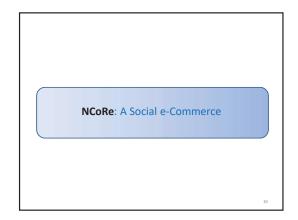














আলোচনার বিষয়সমূহ

• ভূদিকা

• পণোর ঘবি তোলার জন্য প্রবছপূর্ণ বিষয়

• মোবাইল ক্যামেরার বাবহার এবং ছবি তোলার বিয়ম

• মাঠকভাবে গণোর ঘবি তোলার কিছু বিশেষ, বিভিন্ন পণার আকর্ষণীয় ছবির উদাহবন এবং ভার বিশ্বাবিভ আলোচনা

• শিশ্বীদের শ্রেন্টেন তারি করার জনা ভিতিও তোলার শছতি,

• ইউ টিউব মার্কেটি এবং বিজের গ্রোভাইের ভিডিওগ্রাফি

• App গ্রদর্শন এবং ভার বিশ্বাবিভ আলোচনা

ভূমিকা

অননাইরে পণ্য বাজারআন্ত এবং বিক্রয়ের জন্য ভালো ঘবির ভূমিকা

- ক্রেতারা যেকোনো পণ্যের বিবরণ পড়ার চেয়ে গণ্যের ছবি দেখতে বেশি পছল করেন।

- যেকেছু ক্রেতারা সরামরি পণ্যটি দেখতে বা হাতে লগ করতে পারছেন না, ছবির ব্যবহার দেই শূলগান পূরণ করে।

- যেকোনো গণ্যের ছবি তার বিবরণের চেয়ে গণ্যের বিষয়ে বেশি তথ্য বহন করে।

- যেকোনো গণ্যের মমন্ত বিশেষত্ব, বিবরণে প্রকাশ করা সন্তব নয়, সেচ্চেত্রে ছবি একমাত্র মাধ্যম।

- আপনার তৈরি পণ্যটি দেখতে কতটা সুলর সেটি বিবরণে প্রকাশ করা সন্তব নয় ক্রেতাদের কাছে।

- গণ্যের ছবি ক্রেতাদের সাথে বিক্রেতাদের বিশ্বাস স্থাপন করতে সাহায্য করে।

আকর্ষণীয় ছবির ক্রেভাদের ওপর প্রভাব

• পাণার ভালো ছবি ক্রেভাদের মধ্যে কেলার ইচ্ছা ভিরী করে।

• উক্ক রেজলুপন এবং পরিদ্রার ছবি ক্রেভাদের পণ্য কেলার সিদ্ধান্ত নিতে সাহায্য করে।

• পরিদ্ধার ব্যাকপ্রাউন্ত বাবহার করে ভোলা ছবি সবসময় পণ্যার প্রতি ক্রেভাদের পৃষ্টি আকর্ষণ করে।

• সঠিক আপোতে ভোলা ছবি সবসময় ক্রেভাদের পণ্যার বিশেষস্থতীপ বুঝতে সাহায্য করে এবং ভাতে ক্রেভাদের মধ্যে কেলার ইচ্ছা ভিরী হয় ।

• পণ্যার আকর্ষণীয়ে ছবি ক্রেভাদের এই পণ্যার আবুশাসীক অল্যাল্য পণ্যার দিকে আকৃষ্ট করে, কলে পণ্য ক্রয় করার সম্ভাবলা বেড়ে যায়।

দিছু ওয়েৰসাইটের উদায়বৰ্ণ

Ntts://Incoop.com/collection/lesetilery
htts://Incoop.com/collection/lesetilery
htts://Incoop.com/collection/lesetilery
http://www.indiandis.com/levetilery/women-earings

\*\*Tiga কৰা
https://hop.gaatha.com/women/lou-handioom-Sarees-sari/Orline-sirabh-chanderi-cotton-silk-saree-20
http://www.indiandish.ouseagencies.com/sarees/famthastitch

\*\*Tittes://www.indiandish.ouseagencies.com/sarees/famthastitch

\*\*Tittes://www.indiandish.ouseagencies.com/sarees/famthastitch

\*\*Tittes://www.indiandish.ouseagencies.com/sarees/famthastitch-saree/fa

\*\*Tittes://joints/missigit.com/sartha-stitch-saree/fa

\*\*Tittes://joints/missigit.com/sartha-stitch-sartha-stitch-sartha-sartha-stitch-sartha-sar





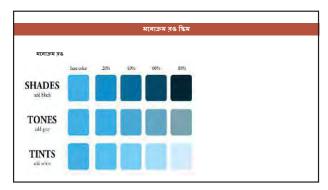








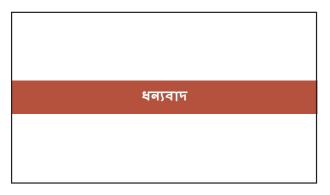












উদ্ভাবনী পণ্য ডিজাইল এবং প্ণ্যের বিকাশ প্রশিক্ষণ TRAINING PRESENTATION ON INNOVATIVE PRODUCT DESIGN & DEVELOPMENT

# আলোচনার বিষয়সমূহ

- পণ্যের ট্রেন্ড
- পণ্যের বহুমুখীকরণ
- পণ্যের প্রচার, পণ্যের উপস্থাপনা এবং পণ্যের মূল্য নির্ধারণ

# হস্তশিল্প পণ্যের ট্রেন্ডের সম্পর্কে ধারণা ভৈরী করা

- বাজারের চাহিদা সম্পর্কে ধারণা তৈরী করা।
- ক্রেতাদের রঙের এবং ডিজাইনের পছন্দ সম্পর্কে ধারণা তৈরী করা।
- কোন কোন পণ্যের চাহিদা ক্রেতাদের প্রয়োজন অনুযায়ী বাড়তে পারে
   তার সম্পর্কে ধারণা তৈরি করা।

# বাজার পর্যবেক্ষণ করে, কী চলছে জালা

- বাজারে বিজনেস ম্যান/ট্রেডারদের সাথে আলোচনা করা
- বিভিন্ন ম্যাগাজিন, নিউজ পেপার ইত্যাদি পড়া
- শহরের ডিজাইনারদের সাথে যোগাযোগ রাখা
- সরকারি/ বেসরকারি এজেন্সিগুলির সাথে যোগাযোগ করে
- ফ্যাশন এবং ব্যবসায়ের প্রবণতা সম্পর্কিত বিভিন্ন সম্মেলন/প্রদর্শনীতে অংশ নেওয়া

## কি কি বিষয় জানতে হবে

- নতুন পণ্য
- নতুন ডিজাইন
- নতুন চাহিদা
- ফিউশন ডিজাইন

















আপনি কীভাবে আপনার পণ্যগুলিকে প্রচার করতে পারেন অফলাইন উপশ্বাপনা অনলাইন উপশ্বাপনা





## সঠিক ক্রেভাদের চিহ্নিতকরণ

- সঠিক পণ্যের জন্য সঠিক ব্য়সের ক্রেভাসমষ্টি চ্য়ন করতে হবে।
- দেখে নিতে হবে চিহ্নিত ক্রেতারা যেন হস্তশিল্প সম্পর্কে অবগত থাকেন।
- যে সকল ক্রেতারা হস্তশিল্পের মূল্য সম্পর্কে ধারণা রাখেন তাদের বেছে নিতে হবে।
- সঠিক পণ্যের জন্য সঠিক আ্ম ক্ষমতাসম্পন্ন ক্রেতাদের বেছে নিতে হবে।
- সবসম্ম হস্তশিল্পের প্রতি আগ্রহী ক্রেভাদের কাছে পণ্য পৌঁছে দিতে হবে।

## পণ্যের মান নির্ধারণ

## পণ্যের মান নির্ধারণের উপাদানসমূহ

- স্ট্যান্ডার্ড পরিমাপ চার্ট
- আকার/ ফর্ম
- ফিনিশিং
- গুণমান





# পণ্যের মূল্য নির্ধারণের জন্য প্রাথমিক ধারণা

## মূল্য নির্ধারণের জন্য প্রয়োজনীয় বিষয়গলো

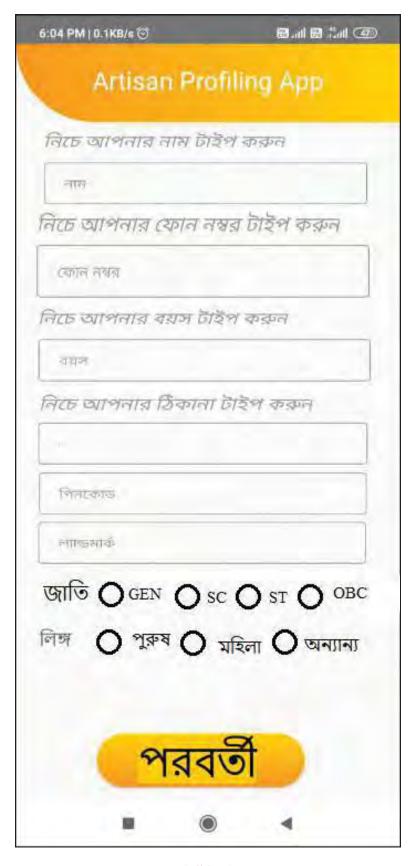
- কাঁচামালের দাম
- মজুরি
- প্যাকেজিং এর খরচ
- উচ্ছিষ্ট কাঁচামালের দাম
- ট্রান্সপোর্টেশন এর খরচ
- পণ্য তৈরির খরচের উপরে লভ্যাংশ

ধন্যবাদ

# APPENDIX VI Artisan Profiling App (Functional Flow)



[Slide-1]



[Slide-2]

# **Instructions for Slide-2:**

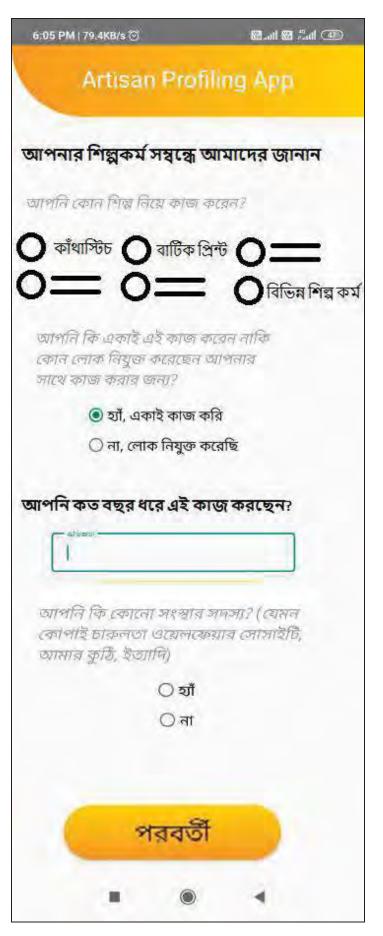
- 1. Put general voice over like "এইবারে আপনার নাম, বয়স, ঠিকানা, জাতি ইত্যাদি প্রদান করুন"
- 2. Change the font style (use Kalpurush) so that it looks nice throughout the entire app



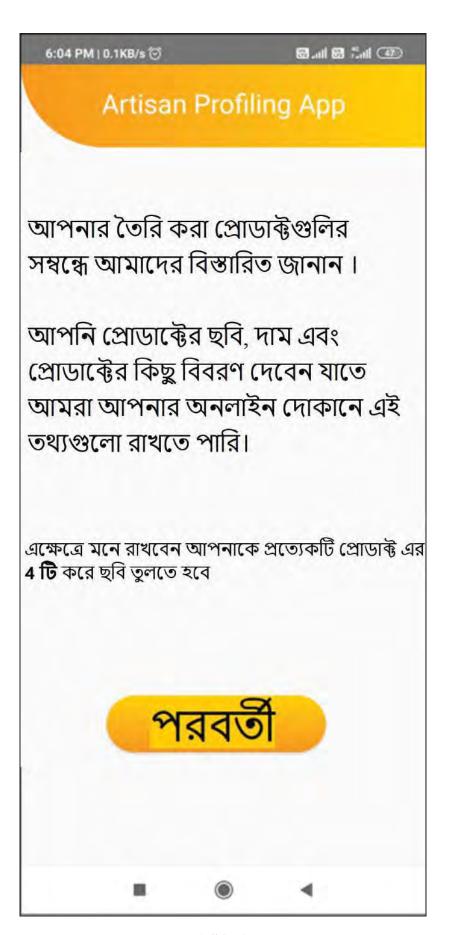
[Slide-3]

## **Instructions for Slide-3:**

- 1. The demo image will be replaced by the artisan image
- 2. Open front camera of the mobile phone once the artisan clicks on the Camera button.



[Slide-4]



[Slide-5]

আপনার প্রোডাক্টের ছবি সুন্দরভাবে তোলার জন্য কিছু পরামর্শ

- ছবি তোলার সময় ছবির পেছনের ব্যাকগ্রাউন্ড সবসময়
   পরিষ্কার দেওয়াল বা সাদাসিধে রাখবেন যেমন মাদুর
   চাটাই এসব রাখতে পারেন
- সবসময় খেয়াল রাখবেন আপনি যে প্রোডাক্ট এর ছবি
   তুলছেন সেটি যেন আপনার ক্যামেরার সাথে
   সমান্তরালভাবে থাকে
- ছবি তোলার সময় খেয়াল রাখবেন যেন আপনার প্রোডাক্টের ছবি ফটোর বেশিরভাগ অংশ জুড়ে থাকে
- ছবি তোলার সময় ক্যামেরাটি স্থির ভাবে ধরবেন
- এমনভাবে ছবিটি তুলেছেন যেন প্রোডাক্ট এর উপর
   পর্যাপ্ত আলো পড়ে এবং ছবিটা পরিষ্কার আসে
- ছবি তোলার সময় আপনার মোবাইল ফোনটি আড়াআড়ি ভাবে ধরবেন





[Slide-7]



[Slide-7.1]



[Slide-15]

## **Instructions for Slide-14:**

After clicking "ধন্যবাদ" button, the app will closes automatically.



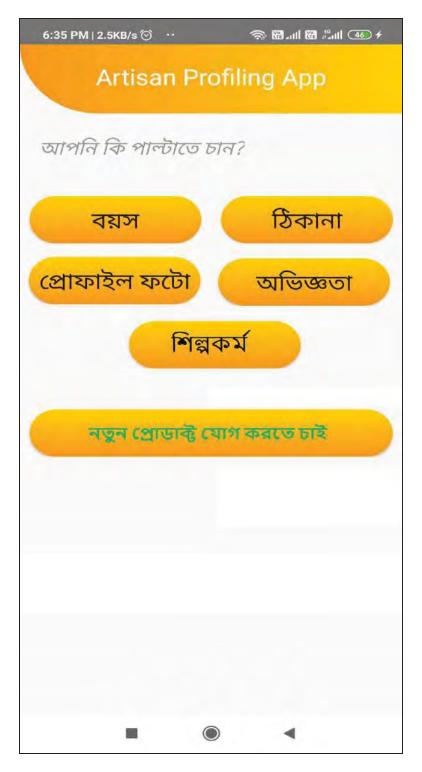
[Slide-16: Artisan Dashboard]

# **Instructions for Slide-15:**

- 1. Once Artisan reopens the app, it will directly redirects to dashboard of the App.
- 2. If artisan clicks on the "আমার প্রোফাইল দেখবো" then GOTO Slide-17
- 3. If artisan clicks on the "আমার তথ্য আপডেট করব" then GOTO Slide-18



[Slide-17]



[Slide-18]

# **Instructions for Slide-18:**

1. If artisan clicks on the "নতুন প্রোডাক্ট যোগ করতে চাই" then GOTO Slide-7