

Financial Performance Assessment of Micro Unit Development and Refinance Agency (Mudra) Yojana using Topsis Approach

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Abstract

The main objective of this study is to assess the financial performance of Micro Unit Development and Refinance Agency (MUDRA) Yojana, an initiative of Government of India to escalate the micro enterprises. The data related to Pradhan Mantri Mudra Yojana mainly sourced from annual reports of MUDRA Yojana and its website; data also have been taken from various journal, magazine and periodical, etc. The study has analyzed various credit schemes, and their performances in entrepreneurship. To achieve the objective of the study, relevant comparisons have been done among schemes, regions, financial institutions, total credit and numbers of accounts by employing TOPSIS method which is a Multi-Criteria Decision Making (MCDM) tool. The specific or more specialized financial institution for serving the credit need of the micro enterprises including SMEs is the need of the hour. The government initiative to escalate micro enterprises by providing financial support through Pradhan Mantri Mudra Yojna is a successful venture. The growth rate of accounts opening and credit disbursement for women entrepreneurs in various MUDRA Schemes shows positive trend. The scheme has reached widely among marginalized segments, 73.41% of account holders are women and 25.16% are new entrepreneurs. However the northern states of the country show comparatively lesser participation in both creations of accounts as well as sourcing of credit. Majority of accounts are opened under 'shishu' scheme and participation Tarun Scheme (Major Projects) is less. The participation of RRBs and PSBs in the scheme is insignificant than private banks, which is not a favorable trend in long run. Government initiative for financing micro enterprises is moving in a balanced direction, the government should improve the bracket of beneficiaries as well as focus on quality of the credit rather than quantity of the credit.

Keywords: Women entrepreneurship; Pradhan Mantri Mudra Yojna; Micro Enterprises; Financial Assistances; Marginalized Groups.

1. Introduction

This study aims to critically evaluate the role of specialized financial institutions in the promotion of micro enterprises in India by taking to account the new financial arrangement

formally called Pradhan Mantri Mudra Yojna. In the academic literature there has been a stream of research discussions on issues concerning growth and development of enterprises varying from lack of skills, managerial issues, marketing problems and more over financial issues. Among all these, financial issues have been a burning topic among academicians and in policy discussions. It is strongly believed that lack of adequate finance is the root cause of all other issues of the sector. The importance of small business entities including SMEs in growth and development of any economy is well established in literatures and universally acceptable fact. The small enterprises have been playing a front role in economic growth and developments particularly post Global Financial Crisis (2007-08). Policies to jumpstart economic growth and promote job creation have been among the top priorities of many developing and developed economies since the financial crisis. The studies have emphasized the importance of small and medium enterprises in contributing to economic indices by creating jobs, output, export and significant role in mitigating regional imbalances. The SME sector development in micro enterprises is a global agenda for sustainable and balanced growth. The small enterprises are a driving force of growth and development in developed nations as well as developing nations. Micro enterprise in India constitute a wide bracket economic activity undertaken by different social categories such as skilled or unskilled, educated or uneducated, irrespective of income level, marginalized groups like women, SC,ST and OBC. It is truly representing nation as whole with wide geographical coverage.

According to the report of Pradhan Mantri Mudra Yojna, *NCSBS* comprises of myriad of small entrepreneurs engaged in manufacturing units, shopkeepers, fruits / vegetable vendors, truck & taxi operators, food-service units, repair shops, machine operators, small industries, artisans, food processors, street vendors and many others; they undertakes three broad categories of economic activities such as, production, trading, and providing transport services. The production activity includes agricultural or non-agricultural activities. Agricultural activities include farming, cattle rearing, poultry rearing and fisheries. Non-agricultural productions consist of a wide variety of skilled and semi-skilled activities ranging from food processing to producing different handicrafts and household items like pots, mats, cloth, etc. Trading is mainly service lending activity such as shop keeping, small business, and selling specific items like vegetables, fish, etc. The stimulant role of micro enterprise including small medium enterprises in the economic growth and the development have established in many literatures, however the financial access determines their growth, for instant, Dinh et al. [1] stated that access of finance is correlated with growth rate of job. The recent study of the International Finance Corporation (2013) also pointed the importance of financing to the small enterprises there are four channels through which finance leads to job creation: (1) finance helps to start new businesses entrepreneurship, (2) finance helps businesses make larger investments, (3) finance provides businesses with liquidity, and (4) finance supports indirect job creation through supply and distribution chains. Considering the pivotal role of micro enterprises including SMEs in economic growth of the country, the government already has taken numerous policy measures to convert and maintain the sector as strategically important segment in the growth trajectory. Despite all these, the credit supply remains unsolved and major hurdle to the growth of the sector. In fact Micro, Small, and Medium Enterprises (MSMEs) particularly micro enterprises constitute a large size of the private sector, particularly in developing countries, further as compared with larger enterprises, the micro enterprise faces greater difficulty in accessing finance and infrastructure services, as well as in complying regulatory norms like licensing and other governmental requirements. Even though the importance of micro enterprises in growth and development is well

recognized, the credit accessibility of the sector still continues as scarce and inadequate. The formal financial institutions are often dormant to process and to sanction the loan applications of micro entrepreneurs. It is mainly due to the perceived risk nature micro enterprises, prudential norms of financial institutions, inability of enterprises to meet collateral requirements etc. The studies showed that the government's initiative such as policy measures and good practices can support micro enterprises for increased access to credit [2, 3].

Recognizing the financial shortage of the micro enterprises and reluctant nature of financial institutions in extending credit to micro enterprises, the Government of India launched Pradhan Mantri Mudra Yojna commonly called 'Micro Unit Development and Refinance Agency' (MUDRA) on 8th April 2015, with the vision of 'to be an integrated financial and support services provider par excellence benchmarked with global best practices and standards for the bottom of the pyramid universe for their comprehensive economic and social development'.

Pradhan Mantri Mudra Yojna is an extension in lending infrastructure of country as more specialized and wide covered, particularly focused on micro enterprises. The idea behind in establishing Pradhan Mantri Mudra Yojna as a new window for micro enterprises is to reduce under-financed or no-financed issues of micro enterprises. There has been evidence from the experiences of other countries that in many cases public policies or government expenditure on a country's lending infrastructure, yields more result than direct support for business development, including MSMEs [4]. The current paper attempts to evaluate the role played in a short span of time and how the schemes benefited to large margin of the society. The paper also attempts to give suggestions to improve the schemes so as to substantially reduce the credit crunch of the sector.

2. Objectives of the study

- a) To discuss the context of origin and the functioning of the Pradhan Mantri Mudra Yojna in India from 2016-17 to 2018-19.
- b) To evaluate the financial performance of the Pradhan Mantri Mudra Yojna Scheme in financing entrepreneurs from 2016-17 to 2018-19.

3. Research methodology

The research methodology includes three stages, namely Source of data, Research design and Statistical tools. The data related to Pradhan Mantri Mudra Yojna mainly sourced from annual reports of MUDRA Yojna and its website; data also have been taken from various journal, magazine and periodical, etc. In the case of research design, the total MUDRA Credit hardly stipulated into three categories namely 'Shishu' (credit amount upto 50,000 Rupees), and 'Kishore' credit amount between (50000 Rupees to 5 Lakh) and Tarun (maximum credit 10 Lakh). Further, all states (29) and Union Territories (7) have been classified into four regions namely North, East (includes north-eastern states), West and Southern regions. The total of financial institutions (147) has classified into NBFC (39), SBI and Associates (6 now merged), Public Sector Banks (21), Private Sector Banks (18), Foreign Banks (2), RRB (56) and one Micro Financial Institution. To achieve the objectives of the study i.e the financial performance of Pradhan Mantri Mudra Yojna in financing entrepreneurs, the relevant comparisons have been done among schemes,

regions, financial institutions, total credit and numbers of accounts. This study deals with both theoretical and qualitative research and TOPSIS analysis in order to investigate whether the MUDRA scheme has any effect on entrepreneurship.

In order to determine the financial performance under this study, three years data covering 2016-2019 were obtained from the official website of MUDRA.

4. Utilization of TOPSIS technique

The data collected regarding financial performance of Pradhan Mantri Mudra Yojna Scheme in financing entrepreneurs from 2016-17 to 2018-19 were analysed based on the ratios using TOPSIS. TOPSIS is one of the multi-criteria decision making techniques that is used to detect best alternative among multiple alternatives. This method is based on selected alternative's being closest to the ideal solution and furthest from the negative ideal solution, so it is an appropriate method for decision makers who avoid risks. In this method, alternatives are compared under specific criteria and between minimum and maximum values that criteria can get.

Steps of TOPSIS method are given below:

Step 1: Formation of Decision Matrix (D):

There are alternatives $i = 1, 2, \dots, m$ in the lines and criteria $j = 1, 2, \dots, n$ in the rows of data matrix formed by decision data. Decision matrix is shown as equation-1:

$$D_{ij} = \begin{bmatrix} x_{11} & \dots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \dots & x_{mn} \end{bmatrix} \quad (1)$$

Step 2: Formation of Normalized Decision Matrix:

In the second step, normalized decision matrix (R) is formed by using equation.

$$A_{ij} = \frac{a_{ij}}{\sqrt{\sum_{k=1}^m a_{kj}^2}} \quad (i=1, \dots, m; j=1, \dots, n) \quad (2)$$

R matrix is shown in equation-3.

$$R_{ij} = \begin{bmatrix} r_{11} & \dots & r_{1n} \\ \vdots & \ddots & \vdots \\ r_{m1} & \dots & r_{mn} \end{bmatrix} \quad (3)$$

Step 3: Formation of Nominal Normalized Decision Matrix (V):

In this step, after relative weight values (ω_{ij} : $i: 1, 2, \dots, N$) are determined, every element in the rows of R matrix are multiplied by related ω_{ij} value and $V_{ij} = (\omega_{ij} \times R_{ij})$ decision matrix

is formed.

$$V_{ij} = \begin{bmatrix} w_1 r_{11} & \dots & w_n r_{1n} \\ \vdots & \ddots & \vdots \\ w_1 r_{m1} & \dots & w_n r_{mn} \end{bmatrix} \quad (4)$$

Step-4: Determination of Ideal (A^+) and Negative Ideal (A^-) Solutions:

The highest values in the rows of weighted standard matrix are chosen in determination of positive ideal solution set (A^+) and the lowest are chosen in order to determine negative ideal solution set (A^-). These sets are calculated as in equations 5 and 6.

$$A^+ = \{(max v_{ij} | j \in J)(min v_{ij} | j \in J)\} \quad (5)$$

$$A^- = \{(min v_{ij} | j \in J)(max v_{ij} | j \in J)\} \quad (6)$$

Step-5: Calculation of Distance between Alternatives:

Distances from positive-ideal solution (S_i^+) and negative-ideal solution (S_i^-) for alternatives are calculated through following formulae (7) and (8):

$$S_i^+ = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^+)^2} \quad (7)$$

$$S_i^- = \sqrt{\sum_{j=1}^n (v_{ij} - v_j^-)^2} \quad (8)$$

Step-6: Calculation of relative distances from ideal solution:

Distance from ideal solution is calculated as follows in which C_i^+ represents distance coefficient and i represents the distance of the alternative from the ideal.

$$C_i^+ = \frac{S_i^-}{S_i^- + S_i^+}, \quad C_i \in [0,1], \quad i = 1, \dots, m \quad (9)$$

C_i takes a value in the flowing range of $0 \leq C \leq 1$. When $A = A^+$, C_i is 1 and shows proximity to the ideal solution. When $A = A^-$, C_i is 0 and shows certain proximity to the negative ideal solution.

Step-7: Ranking of Alternatives:

In the last step, alternatives are calculated in the context of existing criteria and ranked depending on their proximity to the ideal solution. The one that is closest to the ideal solution is the alternative and stands for the best option.

5. Results and Discussion

5.1. Region wise performance ranking based on number of accounts created and loan amount sanctioned to the entrepreneurs

The financial performance was listed in order first by region wise based on number of accounts created and then according to the year. The order of the performance by region wise according to TOPSIS results is indicated in Table 1.

Table 1. Region wise Number of accounts created

Region	2018-19	2017-18	2016-17	Si+	Si-	Pi	Rank
North	0.125908	0.12158	0.110875	0.162	0.131	0.447	4
East	0.208045	0.183357	0.213487	0.176	0.222	0.559	2
North East	0.034122	0.063142	0.026595	0.236	0.174	0.424	5
South	0.193074	0.207777	0.190068	0.161	0.219	0.577	1
West	0.106408	0.1155	0.11915	0.15	0.147	0.494	3

The financial performance was listed in order first by region wise based on loan amount sanctioned and then according to the year. The order of the performance by region wise according to TOPSIS results is indicated in Table 2.

Table 2. Region wise Sanctioned Amount

Region	2018-19	2017-18	2016-17	Si+	Si-	Pi	Rank
North	0.156099	0.164996	0.157012	0.142	0.181	0.561	2
East	0.166885	0.132858	0.161625	0.162	0.164	0.502	4
North East	0.027565	0.05057	0.02493	0.234	0.176	0.429	5
South	0.203268	0.207855	0.198217	0.176	0.234	0.571	1
West	0.120852	0.135146	0.134957	0.134	0.161	0.546	3

Out of the five region of Pradhan Mantri Mudra Yojna Scheme, south region was in first place and North east region was in the fifth place in terms of numbers of accounts created and loan amount sanctioned.

5.2. Category wise performance ranking based on number of accounts created and loan amount sanctioned to the entrepreneurs

The financial performance was listed in order first by scheme wise based on number of accounts created and then according to the year. The order of the performance by category wise according to TOPSIS results is indicated in following tables 3 and 4.

Table 3. Category wise number of accounts created in the year 2016-17

Scheme	Gen	SC	ST	OBC	Si+	Si-	Pi	Rank
Shishu	0.247859	0.24995	0.2498	0.25	0.24	0.432	0.643	1
Kishor	0.031695	0.00501	0.0087	0.011	0.419	0.217	0.341	3
Tarun	0.007836	3.6E-05	0.0009	0.001	0.432	0.24	0.357	2

Table 4. Category wise number of accounts created in the year 2017-18

Scheme	Gen	SC	ST	OBC	Si+	Si-	Pi	Rank
Shishu	0.245716	0.24982	0.2497	0.249	0.236	0.431	0.646	1
Kishor	0.045038	0.00937	0.0113	0.017	0.412	0.202	0.329	3
Tarun	0.009768	0.0004	0.0008	0.001	0.431	0.236	0.354	2

Table 5. Category wise number of accounts created in the year 2018-19

Scheme	Gen	SC	ST	OBC	Si+	Si-	Pi	Rank
Shishu	0.246131	0.24948	0.2492	0.249	0.234	0.421	0.643	1
Kishor	0.042043	0.01571	0.0165	0.026	0.399	0.206	0.34	3
Tarun	0.012329	0.00378	0.0107	0.003	0.421	0.234	0.357	2

Table 6. Category wise loan amount sanctioned in the year 2016-17

Scheme	Gen	SC	ST	OBC	Si+	Si-	Pi	Rank
Shishu	0.134967	0.24746	0.2401	0.236	0	0.379	1	1
Kishor	0.15668	0.03362	0.0646	0.075	0.321	0.062	0.161	2
Tarun	0.140483	0.01163	0.0258	0.032	0.378	0.016	0.041	3

Table 7. Category wise loan amount sanctioned in the year 2017-18

Scheme	Gen	SC	ST	OBC	Si+	Si-	Pi	Rank
Shishu	0.120625	0.24467	0.237	0.227	0	0.371	1	1
Kishor	0.169994	0.04999	0.0757	0.098	0.288	0.088	0.234	2
Tarun	0.138027	0.0118	0.0249	0.037	0.369	0.032	0.08	3

Table 8. Category wise loan amount sanctioned in the year 2018-19

Scheme	Gen	SC	ST	OBC	Si+	Si-	Pi	Rank
Shishu	0.146796	0.24334	0.2372	0.222	0.017	0.359	0.956	1
Kishor	0.154903	0.05538	0.0725	0.108	0.276	0.091	0.249	2
Tarun	0.130215	0.01478	0.0309	0.038	0.359	0.025	0.064	3

Out of the three schemes of Pradhan Mantri Mudra Yojna, Shishu was in first place in terms of numbers of accounts created and loan amount sanctioned in all the three years.

5.3. Overall Performance of MUDRA scheme

The financial performance was listed in order first by scheme wise based on number of women entrepreneurs, number of new entrepreneurs/accounts created, number of minority entrepreneurs, number of loan issued under National Urban Livelihood Mission (NULM), National Rural Livelihood Mission (NRLM) and under other Government sponsored programmes. The order of the overall performance according to TOPSIS results is indicated in following tables:

Table 9. Financial performance based on the number of accounts

Scheme	Women Entrepreneurs	New Entrepreneurs / Accounts	Minority	Mudra card	NU LM	NR LM	Other Govt. Sponsored Prog.	Si+	Si-	Pi	Rank
Shishu	0.14229	0.14038	0.1416	0.14	0.057	0.016	0.124	0.195	0.27	0.581	1
Kishor	0.01225	0.02589	0.0188	0.025	0.131	0.142	0.071	0.246	0.198	0.446	2
Tarun	0.00334	0.00568	0.0018	0.01	0.003	0.009	0.01	0.292	0.018	0.058	3

Table 10. Financial performance based on the amount sanctioned

Scheme	Women Entrepreneurs	New Entrepreneurs / Accounts	Minority	Mudra card	NU LM	NR LM	Other Govt. Sponsored Prog.	Si+	Si-	Pi	Rank
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Shishu	0.13695	0.06705	0.1149	0.044	0.016	0.003	0.029	0.219	0.145	0.399	3
Kishor	0.03805	0.09974	0.0737	0.082	0.141	0.141	0.121	0.139	0.202	0.594	1
Tarun	0.01428	0.07724	0.042	0.108	0.014	0.022	0.07	0.15	0.159	0.514	2

6. Conclusion and Suggestions

The importance of promoting small enterprises including SMEs for a balanced economic growth and development is well established and universal fact particularly Global Financial Crisis 2007-08. Recognizing the unique feature of the sector such as job creation, innovations, balanced economic growth and significant contribution to national development indices, many developing and developed economy have been given prime top priorities for the protection and promotion of the small enterprises. But the sector does not free from growth hurdles like, lack of skills, managerial issues, marketing problems and more over financial issues.

The financial shortage is the root cause of all other issues of the sector. The specific or more specialized financial institution for serving the credit of the micro enterprises including SMEs is the need of the hour. The micro enterprises often dormant to source credit from financial institutions due to internal (illegal character of firms) and external (institutional norms) factors, as result micro enterprises in India, undertaken by different social categories such as skilled or unskilled , educated or uneducated, irrespective of income level, marginalized groups like women, SC,ST and marginalized groups are either unfunded or underfunded. The Pradhan Mantri Mudra Yojna is such a specialized or exclusive financial arrangement for serving credit for micro enterprises in India. In a short span of time it achieved high target in providing credit.

The current study has considered the credit deployment and accounts under MUDRA Schemes. The majority of the accounts holder and the beneficiaries of credit is General category but ST shows only meager portion in both accounts opening and credit benefits. The government should initiate a separate and exclusive scheme to attract the excluded groups. Further the majority of the accounts opened under the 'Shishu' scheme, only meager portion of accounts opened in Tarun Scheme. The government should focus on quality of the credit than quantity of the credit so as to ensure more participation in Tarun Scheme i.e comparatively large projects. The credit distributions in three schemes are satisfactory. The involvement of private sector shows better than public sector, but it is not a good trend. Similarly the RRBs little participation in MUDRA functioning. To reach the schemes benefits to targeted groups active involvement of public sector banks is necessary; they hold wide coverage than private banks. The overall participation in both creation accounts and credit disbursement shows positive trend. Further the government should ensure the improved participation of PSBs and RRBs in credit lending. The study also found that there regional disparities in opening of MUDRA bank accounts, eastern region of the country have opened more accounts but the credit to the doesn't shows such proportion. Similarly in the case of scheme Shishu scheme also shows such domination.

But, the credit disbursement in various region and schemes are not much different. The northern region of the country shows comparatively lesser participation in both creations of accounts as well as sourcing of credit. To conclude the discussion, the government initiative for financing micro enterprises is moving in a balanced direction, the government should improve the bracket of beneficiaries as well as focus on quality of the credit rather than quantity of the credit.

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