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Exploring Implementation Barriers in the PMKVY Program: A Focus on Rural Youth in Haryana

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Abstract
This research paper investigates the implementation challenges faced by youth in the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) training program using primary data collected from 502 participants. The study identifies four major components of challenges—Administrative Barriers (ADBR), Logistical Challenges (LCH), Insufficient Financial Support (INFS), and Implementation Shortcomings (IMSH)—through Exploratory Factor Analysis (EFA). These components are further validated using First Order Confirmatory Factor Analysis (CFA), which shows a robust model fit with strong indices (CFI = 0.994, RMSEA = 0.027), confirming the reliability of the constructs. The study used T-test and ANOVA to analyze PMKVY implementation challenges. The findings revealed that administrative barriers and implementation shortcomings are significantly influenced by factors such as age, gender, education level, and family income, while financial support and logistical challenges were less affected by these factors. The findings suggest targeted interventions addressing specific challenges, especially for female participants, to enhance the effectiveness of the PMKVY program. This study contributes to the understanding of the barriers faced by youth in skill development initiatives and provides insights for policy improvements.

Keywords: MSDE, PMKVY, RPL, Skill Development, INFS, ADBR, LCH, IMSH.

Introduction

The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) has emerged as a cornerstone of India's efforts to address the issue of youth unemployment by equipping individuals with industry-relevant skills. However, its implementation faces numerous challenges that hinder its overall effectiveness. This section explores these barriers and outlines the strategies necessary for overcoming them to ensure the program's success.

Challenges and Barriers in the Implementation of PMKVY

The Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is a pivotal initiative under India's Skill India Mission, designed to tackle the persistent issue of youth unemployment by offering structured skill development opportunities. This flagship program envisions empowering the nation’s youth with industry-relevant skills to enhance their employability and productivity across diverse sectors. Considering India’s demographic advantage—where over 65% of the population is under the age of

35—PMKVY has the potential to be a transformative force in creating a globally competitive workforce (Ministry of Skill Development and Entrepreneurship, 2021). However, despite its ambitious goals, PMKVY faces several implementation hurdles, especially concerning its outreach, inclusivity, and alignment with labor market demands, which significantly impede its effectiveness in achieving its envisioned outcomes.

Skill development has been globally acknowledged as a cornerstone for economic progress and individual empowerment. According to the International Labour Organization (ILO), countries with robust skill-building ecosystems tend to exhibit higher employment levels, increased productivity, and reduced socio-economic disparities (ILO, 2021). In this context, PMKVY represents India's response to global standards of vocational training while attempting to cater to the diverse and complex needs of its local workforce. Through short-term training programs, financial rewards, and recognition of prior learning (RPL), the initiative aims to bridge the skill gaps prevalent in the Indian labor market. However, significant operational challenges, including an overemphasis on enrollment numbers and certification rather than quality and long-term employability, have raised questions about the program's sustainability and relevance in addressing systemic unemployment issues (Gupta & Guha, 2018).

One of the foremost obstacles to PMKVY's success is the limited awareness about the program among its intended beneficiaries, particularly those residing in rural and remote areas. Despite efforts to increase visibility, many individuals remain unaware of the program's existence, objectives, and potential benefits. This lack of awareness is compounded by inadequate dissemination of information through localized and culturally relevant channel (Nehru, 2022). Furthermore, disparities in training infrastructure between urban and rural regions exacerbate the challenges of accessibility. While urban centers are equipped with modern facilities and experienced trainers, rural training centers frequently lack basic amenities, industry-relevant curricula, and qualified instructors. Such disparities undermine the uniformity and overall effectiveness of the training programs, leaving rural and marginalized communities at a disadvantage (Kumar & Hooda, 2021). Socio-economic challenges also significantly affect participation in PMKVY programs. Individuals from economically disadvantaged households often face the dual burden of pursuing skill training while managing their immediate financial needs. Many are compelled to abandon training programs in favor of short-term income opportunities, resulting in high dropout rates. Women, particularly in patriarchal and conservative settings, encounter additional barriers such as societal restrictions, limited mobility, and a lack of support systems like childcare facilities. Similarly, caste-based prejudices restrict the access of marginalized groups to training and employment opportunities, perpetuating cycles of exclusion and poverty (Raj & Das, 2021). Addressing these socio-economic hurdles is crucial for fostering inclusivity and ensuring equitable participation across all segments of society.

Strategies for Enhancing the Effectiveness and Inclusivity of PMKVY

A critical challenge facing the PMKVY program is disconnect between the training it provides and the actual skills required by industries. Many trainees have expressed that the curriculum is too theoretical, offering limited opportunities for hands-on experience that are crucial for preparing them for the workplace. Employers frequently highlight this gap, noting that even certified candidates often lack the practical exposure and problem-solving abilities needed in real-world job scenarios (Singh et al.,2018). This mismatch not only erodes trainees' confidence but also diminishes the program's credibility among employers, limiting its potential to effectively tackle unemployment. In addition to these challenges, PMKVY's post-training support systems are often inadequate. While the program emphasizes skill certification, many beneficiaries struggle to secure meaningful employment due to the

lack of robust job placement services, career counseling, and mentorship programs. Without clear pathways to career progression, trainees are frequently left to navigate the complexities of the job market on their own, leading to underemployment or a return to informal, low-paying jobs (Sharma, 2022). Strengthening these support mechanisms is essential for maximizing the long-term benefits of skill development initiatives.

On a broader level, PMKVY must address systemic issues such as insufficient funding, bureaucratic inefficiencies, and limited coordination among stakeholders. The program's reliance on private training providers, while innovative, often leads to inconsistencies in quality and accountability. Additionally, the rapid pace of technological advancements and the advent of Industry 4.0 demand a dynamic approach to curriculum design, which the current system struggles to implement effectively (Gupta & Gupta, 2022). Overcoming these structural challenges is critical to ensuring that PMKVY remains relevant and impactful in a rapidly evolving labor market.

Despite these limitations, PMKVY has shown promise in transforming the lives of its beneficiaries. Numerous success stories from different states illustrate the program's potential to uplift individuals from poverty, empower women, and bridge skill gaps in emerging industries. However, to fully realize this potential, PMKVY must adopt a more holistic approach to skill development, focusing on inclusivity, quality, and sustainability. Key strategies include investing in infrastructure development, fostering partnerships with industries, enhancing outreach campaigns, and ensuring greater alignment between training programs and market demands. This research paper delves into the multifaceted challenges encountered by youth in PMKVY training programs, analyzing the structural, operational, and socio-economic factors that shape their experiences. Addressing these challenges is not only essential for the success of PMKVY but also critical for achieving the broader vision of a skilled, employable, and self-reliant India.

Literature Review

Structural and Financial Challenges:

This section encompasses issues related to insufficient financial support and logistical challenges that hinder the effective implementation of the PMKVY program. A key challenge identified is the lack of effective outreach and awareness programs, particularly in rural areas. Singh and Kumar (2020) highlight that youth in rural areas remain unaware of PMKVY's objectives and benefits due to inadequate local awareness campaigns and poor information dissemination. Additionally, socio-economic barriers, particularly for economically disadvantaged youth, contribute to high dropout rates as young people struggle to balance training with the need to support their families (Verma & Pandey, 2020). Financial pressures force many to prioritize immediate employment over skill development. Limited financial support restricts the development of necessary infrastructure and resources for training, especially in rural areas (Behera & Gaur, 2022). The shortage of skilled trainers and the lack of training centers in remote regions also exacerbate logistical challenges, such as long travel times for candidates (Sharma, 2021), further deterring enrollment in the program. Moreover, studies by Reddy and Rao (2023) indicate that bureaucratic delays in fund disbursement negatively impact the sustainability of training centers, affecting the overall efficiency of the scheme. Similarly, Patil and Joshi (2021) argue that inadequate industry collaboration in PMKVY training centers reduces the practical exposure of candidates, making them less job-ready. Das and Gupta (2022) highlight that financial constraints are more pronounced among women, as familial obligations and lack of financial assistance discourage female participation. Furthermore, Bansal and Mehta (2023) note that many PMKVY graduates struggle with employment due to skill mismatch, as training programs do not

always align with current market demands.

Programmatic and Administrative Shortcomings:
This section addresses the administrative barriers and implementation shortcomings in PMKVY. Studies have pointed out governance and accountability challenges, particularly concerning the role of private training providers. The program heavily relies on private training centers, which are often driven by profit motives that may not align with the government's skill development objectives (Sethi & Yadav, 2021). There is a significant mismatch between the skills taught in PMKVY training and the actual demands of the labor market, leaving graduates underprepared for the workforce (Chenoy, 2017; Cabral & Dhar, 2020). Employers often express concerns about the limited job readiness of PMKVY graduates, citing gaps in practical skills and the inability to adapt to dynamic work environments. The lack of post-training support systems, such as job placement services, career counseling, and mentorship, exacerbates the challenge of transitioning from training to stable employment (Raja et al., 2022). Furthermore, bureaucratic inefficiencies, delays in funding, and lack of coordination among stakeholders complicate the execution of PMKVY across regions (Reddy, 2021). The rapid technological changes, including the rise of Industry 4.0, have also posed challenges in keeping training curricula up to date, leaving trainees unprepared for emerging job roles (Kumar et al., 2021). To improve program effectiveness, the PMKVY must address these implementation shortcomings by aligning training with industry needs, ensuring better oversight of training providers, and enhancing post-training support systems.

Objective of Study

- The primary objective of this study is to identify and analyze the challenges faced by rural youth in accessing from the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) program.
- To study how socio-demographic characteristics (e.g., age, gender, educational level, and family income) influence challenges related to PMKVY among rural youth.

Hypothesis

- **H_{01}:** There is no significant association between the age of the respondents and the implementation challenges faced in the PMKVY program.
- **H_{02}:** There is no significant association between the gender of the respondents and the implementation challenges faced in the PMKVY program.
- **H_{03}:** There is no significant association between the educational qualification of the respondents and the implementation challenges faced in the PMKVY program.
- **H_{04}:** There is no significant association between the family annual income of the respondents and the implementation challenges faced in the PMKVY program.
-

Methodology Research
This study employs a quantitative research design to explore the impact and challenges of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) among rural youth in Haryana. The research focuses on identifying the socio-demographic factors influencing the program's effectiveness, including age, gender, educational level and family income. The sample consists of 502 participants who have enrolled in various skills development courses under the PMKVY program in Haryana. The participants represent a diverse demographic, including rural youth from different districts within Haryana. The sample was selected using a stratified random sampling technique to ensure representation across key socio-demographic variables. Primary data was collected through structured

questionnaires distributed to participants who have completed or are currently enrolled in the PMKVY program. The survey instrument was designed to capture information on: Gender, age, educational level and family income. Primary data for this study was gathered from rural youth in Haryana who have participated in the PMKVY program. The data collection was done through field surveys, conducted in various rural districts of Haryana to ensure a comprehensive understanding of the program's impact in the state.

Data Analysis

The data was analyzed using both descriptive and inferential statistics. Descriptive statistics (mean, standard deviation, frequency distribution) were used to summarize the socio-demographic characteristics and the key variables related to PMKVY outcomes. Inferential statistical techniques, such as T-tests, ANOVA-analysis, and factor analysis, were employed to explore the relationships between socio-demographic variables and the challenges faced by participants in the program. SPSS software will be used for data analysis. A stratified random sampling method was used to select 502 participants to ensure the sample was representative of various rural regions of Haryana. The stratification was based on factors such as age, gender, educational background, and income levels, which are important for understanding the diverse challenges faced by the participants.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy assesses the proportion of shared variance among variables, indicating their suitability for Exploratory Factor Analysis (EFA). A high KMO value suggests the dataset is appropriate for EFA. KMO values are interpreted as follows: 0.60–0.69 (mediocre), 0.70–0.79 (middling), 0.80–0.89 (meritorious), and above 0.90 (marvelous) (Neuhaus & Wrigley, 1954). Higher KMO values indicate strong common variance, supporting the use of EFA, while lower values suggest insufficient shared variance.

Table: 1 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.741
Bartlett's Test of Sphericity	Approx. Chi-Square	2998.195
	df	66
	Sig.	.000

Source: Primary Survey

Table 1 presents the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, providing essential insights into the suitability of the data for factor analysis. The KMO value of 0.741 falls within the recommended range of 0.70 to 0.79, categorized as middling. This value indicates that the 12 components or variables associated with the implementation challenges faced by youth in the PMKVY program have sufficient common variance to support factorization. The data's adequacy is further confirmed by Bartlett's Test of Sphericity, which yielded an approximate Chi-Square value of 2998.195 with 66 degrees of freedom and a significance level of 0.000, demonstrating that the correlation matrix is not an identity matrix and is appropriate for factor analysis. These results validate the data's capacity to explain approximately 71% of the shared variation, reinforcing the reliability and robustness of the variables for exploring the underlying factors linked to

PMKVY implementation challenges. This ensures that the subsequent analysis is grounded in statistically sound data, paving the way for meaningful interpretation and insights.

Reliability Statistics: Cronbhac's Alpha

The coefficient of internal consistency measures the reliability of variable measurements, ensuring responses are consistent and dependable. An alpha value above 0.60 is recommended. The reliability classification is as follows: $\alpha \geq 0.9$ (Excellent), $0.7 \leq \alpha < 0.9$ (Good), $0.6 \leq \alpha < 0.7$ (Acceptable), $0.5 \leq \alpha < 0.6$ (Poor), and $\alpha < 0.5$ (Unacceptable) (Hajjar, 2018).

Table: 2 Reliability Statistics

Cronbach's Alpha	N of Items
.719	12

Source: Primary Survey

Table 2 shows the reliability statistics, with a Cronbach's alpha of 0.719, indicating good internal consistency for the 12 variables assessing PMKVY training challenges. This score exceeds the 0.70 threshold, confirming reliable responses and validating the dataset for further analysis. These findings underscore the robustness of the questionnaire design and its ability to capture coherent and meaningful data, reinforcing its validity for uncovering critical insights into the challenges encountered in the PMKVY program.

Table: 3 Communalities

	Extraction
Registration process is long and complicated of training	.862
Lot of documents are required	.857
Irregular functioning of the PMKVY centre	.681
Lack of plan in training scheme	.701
Lack of interest on the part of PMKVY workers	.677
Long distance from residence to center	.837
Lighting/ heating problems at the centre	.829
Unsuitable timings	.814
Not understanding the program before starting the course	.818
Lack of government support for trained candidate	.698
Not enough budget has been allocated for training.	.780
Lack of infrastructure due to insufficient funds.	.813

Source: Primary Survey Extraction Method: Principal Component Analysis.

The Table 3 shows how much of each variable's variance is explained by the retained factors in the Principal Component Analysis (PCA). Initially, all variables have a total variance of 1.000. After extraction, variables like "Registration process is long and complicated" (0.862) and "Lot of documents are required" (0.857) have high communalities, indicating they are well-represented by the factors. Moderate communalities, such as "Lack of government support for trained candidate" (0.698), suggest

these variables are somewhat influenced by the factors. Overall, the table highlights the importance of these variables in explaining the challenges faced in the PMKVY program.

Table: 4 Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.966	24.718	24.718	2.966	24.718	24.718	2.534	21.115	21.115
2	2.690	22.414	47.133	2.690	22.414	47.133	2.474	20.614	41.729
3	2.035	16.958	64.091	2.035	16.958	64.091	2.299	19.157	60.887
4	1.678	13.979	78.070	1.678	13.979	78.070	2.062	17.183	78.070
5	.493	4.111	82.181						
6	.472	3.930	86.111						
7	.432	3.602	89.713						
8	.281	2.340	92.053						
9	.275	2.291	94.344						
10	.267	2.222	96.566						
11	.224	1.868	98.433						
12	.188	1.567	100.000						

Source: Primary Survey Extraction Method: Principal Component Analysis.

The Table 4 "Total Variance Explained" summarizes the variance captured by the factors extracted through Principal Component Analysis (PCA). Initially, 12 components are analyzed, with their eigenvalues reflecting the variance each component explains. Four components have eigenvalues greater than 1, contributing significantly to the analysis. Together, these four components account for 78.07% of the total variance, indicating they capture most of the data's information. The rotation process redistributes the explained variance more evenly among the components, with the rotated solution showing the first four components explaining 21.12%, 20.61%, 19.16%, and 17.18% of the variance, respectively.

Table: 5 Rotated Component Matrix[a]

	Component			
	1	2	3	4
Registration process is long and complicated of training	.926			
Lot of documents are required	.917			
Not understanding the program before starting the course	.901			
Lighting/ heating problems at the centre		.905		
Long distance from residence to center		.904		

Unsuitable timings		.895		
Lack of infrastructure due to insufficient funds.			.900	
Not enough budgets have been allocated for training.			.881	
Lack of government support for trained candidate			.825	
Lack of plan in training scheme				.834
Lack of interest on the part of PMKVY workers				.815
Irregular functioning of the PMKVY centre				.814
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 5 iterations.				

Source: Primary Survey

The "Rotated Component Matrix" Table 5 categorizes the challenges in the PMKVY program into four distinct components—ADBR (Administrative Barriers)**,** LCH (Logistical Challenges)**,** INFS (Insufficient Financial Support)**,** and IMSH (Implementation Shortcomings)**—**based on variable loadings. ADBR includes procedural difficulties such as a lengthy registration process (0.926) and excessive documentation (0.917). LCH highlights logistical issues like poor facility conditions (0.905) and unsuitable timings (0.895). INFS captures financial constraints, with variables like lack of infrastructure (0.900) and insufficient training budgets (0.881). IMSH focuses on organizational inefficiencies, including irregular center functioning (0.814) and inadequate planning (0.834). This categorization provides a clear framework for addressing specific challenges systematically, facilitating targeted interventions to enhance the program's effectiveness.

Confirmatory Factor Analysis

In this study, confirmatory factor analysis (CFA) was conducted as part of the factor analysis to assess the reliability of construct measurements and to verify whether the data aligned with the expected measurement model. Initially, exploratory factor analysis (EFA) was utilized to identify the various dimensions of implementation challenges. This analysis revealed four key factors contributing to challenges in the PMKVY training program: INFS (Insufficient Financial Support)**,** ADBR (Administrative Barriers)**,** LCH (Logistical Challenges)**,** and IMSH (Implementation Shortcomings). These factors were subsequently validated using the First Order Measurement Model in CFA. Through this process, the CFA analyzed covariance values, confirmed the validity and reliability of the constructs, and evaluated how well the proposed model fit the data. By leveraging theoretical foundations and prior analytical findings, CFA provided robust evidence for the relevance of these factors in explaining implementation challenges in the PMKVY program.

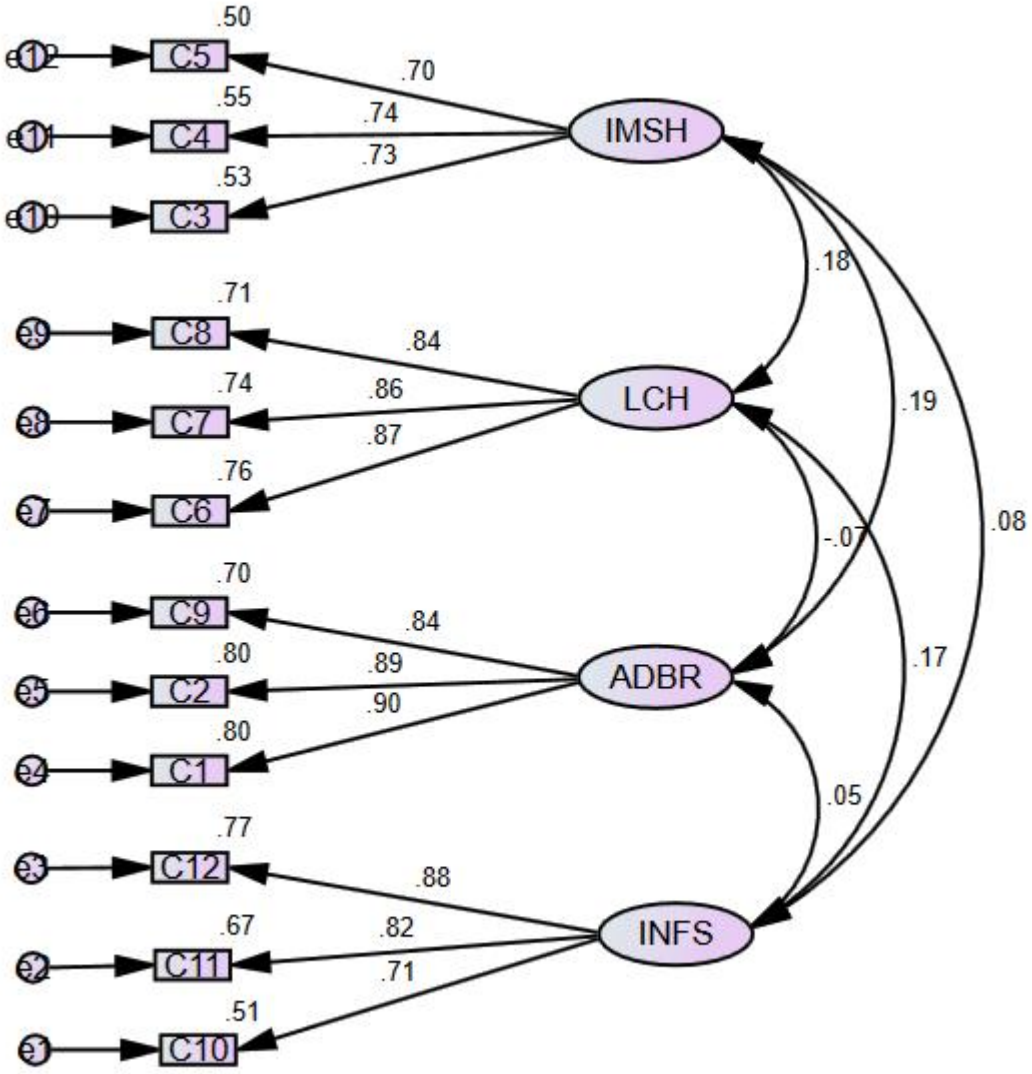

Figure: 1 First Order of Confirmatory Implementation Challenges in PMKVY

Table: 6 Models Fit Indices: First Order Confirmatory Factor Analysis				
Model Outcomes	No. of Items	Indices	Recommended Value	Model Fit Indices
Proposed model CMIN= 65.903 DF= 48	12	CMIN/DF	<5	1.373
		GFI	>.90	.979
		CFI	>.90	.994
		IFI	>.90	.994
		TLI	>.90	.992

		RMSEA	<.10	.027
Source: Primary Survey				

The results of the First Order Confirmatory Factor Analysis (CFA) presented in Table 6 indicate a strong model fit for the proposed constructs of implementation challenges in the PMKVY program. The chi-square value (65.903, with 48 degrees of freedom) and the CMIN/DF ratio of 1.373, which is well below the recommended threshold of <5, demonstrate a good fit (Schumacker & Lomax, 2004). Incremental and baseline comparison indices, including GFI (0.979), CFI (0.994), IFI (0.994), and TLI (0.992), all exceed the suggested minimum value of >0.90, indicating robust model performance (Hu & Bentler, 1999; Kline, 1998). Additionally, the RMSEA value of 0.027, significantly below the threshold of 0.10, reflects minimal discrepancies between the data and the model (Browne & Cudeck, 1992). These results confirm that all observed variables are significantly related to their respective latent constructs, validating the proposed framework of INFS (Insufficient Financial Support)**,** ADBR (Administrative Barriers)**,** LCH (Logistical Challenges)**,** and IMSH (Implementation Shortcomings) as effective measures of implementation challenges in the PMKVY program.

Table: 7 Indices of Divergent and Discriminant Validities

	CR	AVE	MSV	ADBR	LCH	IMSH	INFS
ADBR	0.908	0.767	0.035	**0.876**			
LCH	0.894	0.737	0.031	-0.068	**0.858**		
IMSH	0.768	0.525	0.035	0.187	0.176	**0.725**	
INFS	0.848	0.651	0.030	0.054	0.174	0.083	**0.807**

Source: Primary Survey

The Table 7 presents the indices of divergent and discriminant validity for the constructs Administrative Barriers (ADBR)**,** Logistical Challenges (LCH)**,** Implementation Shortcomings (IMSH), and Insufficient Financial Support (INFS). The Composite Reliability (CR) values for all constructs exceed the recommended threshold of 0.70, indicating strong internal consistency and reliability, which is essential for the robustness of the measurement model (Hair et al., 2006). The Average Variance Extracted (AVE) values for each construct are also above 0.50, meeting the convergent validity criteria set by Fornell and Larcker (1981), suggesting that each construct adequately captures the variance it is intended to measure. The Maximum Shared Variance (MSV) values for each construct are lower than the corresponding AVE values, confirming the discriminant validity of the constructs, as the absence of cross-loadings supports the distinctiveness between constructs (Sarstedt et al., 2021). Furthermore, the correlation between constructs is below the 0.85 threshold, further validating the distinctiveness of the constructs (Kline, 2015). These results align with the principles outlined in previous research, such as Moolla and Aftthanorhan (2013), which emphasizes the importance of discriminant and convergent validity in ensuring the reliability and validity of measurement models. Thus, the analysis confirms that the constructs INFS, ADBR, LCH, and IMSH are both distinct and reliable, supporting the soundness of the proposed model in the study.

Table: 8 Results of One-Way Anova (Analysis of Variance) on the basis of Age										
	Age	N	Mean	Std. Deviation	Levene	Sig.	F Value	Sig.	Welch	Sig.
Insufficient Financial Support	15-18	19	4.07	.878	3.869	^0.009	N/A		2.276	0.086
	19-24	146	3.66	.917						
	25-30	248	3.53	1.035						
	Above 30	89	3.58	1.025						
Administrative Barriers	15-18	19	3.54	.802	.695	.555	.074	.974	N/A	
	19-24	146	3.47	.959						
	25-30	248	3.51	.928						
	Above 30	89	3.52	.971						
Logistical Challenges	15-18	19	4.00	.598	3.218	^0.023	N/A		1.758	.162
	19-24	146	3.76	.768						
	25-30	248	3.67	.969						
	Above 30	89	3.66	.948						
Implementation Shortcoming	15-18	19	3.98	.490	.927	.428	4.304	.005*	N/A	
	19-24	146	3.91	.738						
	25-30	248	4.10	.702						
	Above 30	89	4.23	.634						

Source: Primary Survey *^ homogeneity of variance is significant* *∗ Significant at 0.05 level of significance*

Table 8 presents the results of a One-Way ANOVA based on age, examining the four constructs of the PMKVY program: Insufficient Financial Support (INFS), Administrative Barriers (ADBR), Logistical Challenges (LCH), and Implementation Shortcomings (IMSH). The Levene's test for homogeneity of variances showed no violations for ADBR and IMSH, allowing the use of the F-test. For IMSH, the F-test revealed a significant difference across age groups ($p = 0.005$), indicating that age influences perceptions of implementation challenges. In contrast, ADBR showed no significant age-based differences. For INFS and LCH, the Levene's test indicated violations of homogeneity of variances, so the Welch test was applied. The Welch test results showed no significant differences for both INFS ($p = 0.086$) and LCH ($p = 0.162$) across age groups. Therefore, the only construct with a significant age-based difference was IMSH, while the other constructs showed no significant differences.

Table 9 presents the results of a t-test conducted to examine the relationship between gender and the implementation challenges in the PMKVY program. The analysis reveals that there are significant

Table: 9 Results of T-test on the basis of Gender

	Gender	N	Mean	Std. Deviation	Levene	Sig.	t	Sig. (2-tailed)	Mean Difference
Insufficient Financial Support	Male	303	3.52	1.051	11.258	.001*	-2.155	.032	-1.955
	Female	199	3.72	.900			-2.225	.027	
Administrative Barriers	Male	303	3.48	.967	2.836	.093	-.841	.401	-.072
	Female	199	3.55	.892			-.855	.393	
Logistical Challenges	Male	303	3.64	.970	10.497	.001*	-2.152	.032	-.176
	Female	199	3.82	.770			-2.256	.024	
Implementation Shortcoming	Male	303	4.11	.738	1.589	0.208	1.955	.051	.124
	Female	199	3.99	.738			1.919	.056	

Source: Primary Survey *^ homogeneity of variance is significant* *∗ Significant at 0.05 level of significance*

gender-based differences in two constructs: Insufficient Financial Support and Logistical Challenges, while no significant differences are found for Administrative Barriers and Implementation Shortcoming. For Insufficient Financial Support, the mean score for male respondents is 3.52, while for females it is 3.72, with a significant t-value of -2.155 ($p = 0.032$), indicating that females perceive financial support to be more insufficient than males. Similarly, for Logistical Challenges, males reported a mean of 3.64, while females reported a mean of 3.82, with a significant t-value of -2.152 ($p = 0.032$), indicating that females experience more logistical challenges. In contrast, no significant gender differences were found in Administrative Barriers ($t = -0.841$, $p = 0.401$) and Implementation Shortcoming ($t = 1.955$, $p = 0.051$), where both male and female respondents had similar views. As a result, the null hypothesis (no significant gender differences) is accepted for Administrative Barriers and Implementation Shortcoming**,** while the alternate hypothesis (significant gender differences) is accepted for Insufficient Financial Support and Logistical Challenges.

Table: 10 Results of One-Way Anova (Analysis of Variance) on the basis of Education

	Education	N	Mean	Std. Deviation	Levene	Sig.	F Value	Sig.	Welch	Sig.
Insufficient Financial Support	below 8 class	17	3.72	.914	.740	.594	.195	.964	N/A	
	9th- 10th class	73	3.65	1.017						
	11th-12th class	180	3.57	1.024						

	Under Graduate	189	3.58	.990						
	Post Graduate	37	3.65	.982						
	Other	6	3.77	.779						
Administrative Barriers	below 8 class	17	3.60	.937	3.209	^.007	N/A		1.756	.144
	9th- 10th class	73	3.68	.815						
	11th-12th class	180	3.52	.898						
	Under Graduate	189	3.46	1.020						
	Post Graduate	37	3.20	.927						
	Other	6	3.77	.544						
Logistical Challenges	below 8 class	17	3.62	.753	.665	.650	.721	.608	N/A	
	9th- 10th class	73	3.74	.891						
	11th-12th class	180	3.67	.941						
	Under Graduate	189	3.72	.890						
	Post Graduate	37	3.90	.808						
	Other	6	3.27	1.041						
Implementation Shortcoming	below 8 class	17	3.90	1.012	1.300	.263	.535	.750	N/A	
	9th- 10th class	73	4.02	.817						
	11th-12th class	180	4.07	.667						
	Under Graduate	189	4.07	.673						
	Post Graduate	37	4.11	.667						
	Other	6	4.38	.250						

Source: Primary Survey *^ homogeneity of variance is significant* *∗ Significant at 0.05 level of significance*

Table 10 presents the results of a One-Way ANOVA conducted to examine the relationship between respondents' education level and the implementation challenges they face in the PMKVY program. The analysis reveals that the assumption of homogeneity of variances is not violated for three constructs: Insufficient Financial Support, Logistical Challenges, and Implementation Shortcoming, as indicated by the p-values greater than 0.05 in Levene's test. This suggests that there is no significant difference in the implementation challenges across different education levels for these three constructs, and the null hypothesis is accepted for these factors. However, for the Administrative Barriers construct, the p-value of Levene's test is less than 0.05, indicating a violation of the homogeneity of variances assumption. Therefore, the Welch test was used to examine the differences in Administrative Barriers, and the alternate hypothesis is accepted, indicating that there is a significant difference based on education level. The mean scores for Insufficient Financial Support across education levels range from 3.57 to 3.77, showing no significant differences. Similarly, Logistical Challenges also show similar mean scores, ranging from 3.62 to 3.90, without significant differences. For Implementation Shortcoming, the mean scores range from 3.90 to 4.38, with no significant variation across education levels. However, for Administrative Barriers, the mean scores show more variation, with the highest mean of 3.77 reported by respondents with other educational backgrounds and the lowest mean of 3.20 reported by post-graduate respondents. This suggests that education level influences perceptions of administrative barriers, but it does not significantly affect other implementation challenges in the PMKVY program.

Table: 11 Results of One-Way Anova (Analysis of Variance) on the basis of Family Annual Income

	Income	N	Mean	Std. Deviation	Levene	Sig.	F Value	Sig.	Welch	Sig.
Insufficient Financial Support	Below 75000	143	3.6550	1.03719	2.755	^0.027	N/A		1.531	0.216
	75001-150000	168	3.6567	.93247						
	150001-225000	132	3.5152	1.03490						
	225001-300000	54	3.4753	1.03523						
	Above 300000	5	3.9333	.36515						
Administrative Barriers	Below 75000	143	3.3800	.96463	2.932	^0.020	N/A		9.727	.000*
	75001-150000	168	3.4405	.97358						
	150001-225000	132	3.6591	.86047						
	225001-300000	54	3.6296	.90807						

	Above 300000	5	4.2667	.27889					
Logistical Challenges	Below 75000	143	3.8695	.73801	5.566	^0.000	N/A	2.299	.083
	75001-150000	168	3.7282	.89252					
	150001-225000	132	3.6490	.95026					
	225001-300000	54	3.4506	1.08188					
	Above 300000	5	3.4000	1.29957					
Implementation Shortcoming	Below 75000	143	4.0653	.67281	3.217	^0.013	N/A	2.786	.043*
	75001-150000	168	4.0516	.74221					
	150001-225000	132	4.0404	.79121					
	225001-300000	54	4.1790	.35885					
	Above 300000	5	4.4667	.29814					
Source: Primary Survey				*^ homogeneity of variance is significant*				*∗ Significant at 0.05 level of significance*	

Table 11 examines the relationship between respondents' family annual income and their perception of implementation challenges in the PMKVY program. The results show that the assumption of homogeneity of variances is violated for all four constructs (Insufficient Financial Support, Administrative Barriers, Logistical Challenges, and Implementation Shortcoming), as indicated by Levene's test, prompting the use of Welch's test. The analysis reveals no significant difference in Insufficient Financial Support and Logistical Challenges based on family income, with p-values of 0.216 and 0.083, respectively. However, significant differences are found in Administrative Barriers (p-value = 0.000) and Implementation Shortcoming (p-value = 0.043), suggesting that family income influences respondents' views on these challenges. Specifically, respondents from higher income groups (above 300,000) reported higher mean scores for these factors, indicating that family income plays a significant role in shaping perceptions of administrative barriers and implementation shortcomings in the PMKVY program. Thus, the null hypothesis is rejected for these two constructs, but accepted for Insufficient Financial Support and Logistical Challenges, indicating that family income has a notable impact on certain implementation challenges in PMKVY.

Discussion and Policy Implications

The findings of this study highlight significant challenges faced by rural youth in Haryana regarding the implementation of the PMKVY program. The identification of four key barriers—Administrative Barriers (ADBR), Logistical Challenges (LCH), Insufficient Financial Support (INFS), and

Implementation Shortcomings (IMSH)—provides a structured understanding of the systemic issues hindering the program's effectiveness. These findings underscore the need for targeted policy interventions to enhance the reach and impact of PMKVY, particularly in rural areas where accessibility and awareness remain key obstacles. The study reveals that administrative barriers, such as a lengthy registration process and excessive documentation requirements, disproportionately affect youth with lower educational backgrounds. To address this, policymakers should streamline enrollment procedures by leveraging digital platforms, reducing paperwork, and providing dedicated registration support centers in rural areas. Additionally, training providers should collaborate with local government bodies and community organizations to ensure smoother implementation. Logistical challenges, including long travel distances to training centers and inadequate infrastructure, significantly deter participation. Expanding the number of training centers in rural clusters and introducing mobile training units can mitigate these issues. Furthermore, providing subsidized transportation or travel allowances for trainees can improve accessibility and reduce dropout rates. The lack of sufficient financial support emerged as another critical barrier, particularly among female participants. The study indicates that financial constraints often force trainees to drop out before completing their courses. Addressing this issue requires an increase in stipends, covering travel and daily expenses, and introducing financial incentives for women and economically weaker sections. Additionally, partnerships with local businesses to provide paid apprenticeships can offer financial relief while enhancing employability. Implementation shortcomings, such as a misalignment between training curricula and industry requirements, limit the program's effectiveness in securing employment for graduates. Strengthening industry linkages by regularly updating curricula in consultation with employers and integrating hands-on practical training can bridge this gap. Establishing formal post-training support mechanisms, such as job placement cells and career counseling services, can further ensure that trainees transition smoothly into the workforce.

Conclusion

This research provides valuable insights into the implementation challenges faced by youth in the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) training program. Through primary data collected from 502 participants and analyzed using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and statistical tests such as ANOVA and t-tests, the study identifies four critical components of challenges: Administrative Barriers (ADBR), Logistical Challenges (LCH), Insufficient Financial Support (INFS), and Implementation Shortcomings (IMSH). The findings revealed that administrative barriers and implementation shortcomings are significantly influenced by factors such as age, gender, education level, and family income, while financial support and logistical challenges were less affected by these factors. Notably, females reported experiencing more logistical challenges and insufficient financial support compared to males, and family income had a substantial impact on perceptions of administrative barriers and implementation shortcomings. The analysis also highlighted that educational background influenced perceptions of administrative barriers but did not significantly affect other challenges. These results suggest that addressing specific challenges based on socio-demographic characteristics, particularly targeting females and lower-income groups, can enhance the effectiveness of the PMKVY program. The study emphasizes the importance of developing targeted interventions to mitigate administrative inefficiencies, improve logistical support, and ensure adequate financial resources, ultimately improving the overall impact and success of the PMKVY program in empowering youth and enhancing skill development in India.

Policy Recommendations for the Effectiveness of PMKVY in Rural Haryana

Increasing the effectiveness of PMKVY in rural Haryana requires a multi-pronged approach that addresses systemic inefficiencies while promoting inclusivity and industry alignment. Simplifying the registration process by removing bureaucratic bottlenecks and reducing document requirements can significantly increase access, especially for marginalized groups. Setting up dedicated support centers within rural communities will ease the enrollment process, ensuring that applicants receive the support they need to navigate complex administrative processes. Expanding the number of training centers equipped with modern facilities and industry-aligned equipment is essential to sustain high-quality skill development and ensure that rural candidates receive training at par with their urban counterparts. Addressing logistical barriers through transportation support, such as subsidized travel options and community transport support, will reduce barriers related to distance and mobility, thereby improving attendance rates. Financial constraints, which disproportionately affect economically weaker sections, necessitate an increase in stipends to cover travel and daily expenses, reduce dropout rates, and promote greater program retention. Additionally, integrating apprenticeship programs prior to certification will enhance practical exposure, giving trainees the practical experience needed for seamless workforce integration. Strategic awareness campaigns led by local community leaders, NGOs, and self-help groups will boost outreach, ensuring that rural youth are well informed about program benefits and enrollment processes. Using culturally relevant communication channels such as community radio, gram sabhas, and local language resources will further improve program reach and accessibility. Leveraging digital advancements, especially through the development of intuitive mobile applications that provide real-time updates, comprehensive course details, and enrollment support, will increase engagement and streamline information dissemination. Strengthening industry linkages by aligning training modules with local employment opportunities is crucial to bridge the skill-employment gap, thereby increasing job opportunities after training. To maintain quality standards, implementing rigorous periodic assessments and upgrading training infrastructure will ensure curriculum relevance, modern equipment availability and deployment of qualified trainers. Finally, establishing third-party monitoring systems and robust feedback systems will increase accountability, optimize resource allocation and ensure that PMKVY fulfills its mandate of promoting sustainable skill development and employment in rural India.

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