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Understanding the Return on Skills Training Models in India



Credits

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Acknowledgements

We are grateful to all the skill training organisations who participated in the study and generously shared their expertise and insights for this report.

List of Skill Training Partners

All India Society for Electronics and Computer technology (AISECT)

Antarang Foundation

Anudip Foundation

Avanti Fellows

B-Able

Centum Learning

Don Bosco Tech Society

Dr. Reddy's Foundation

Empower Pragati

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ICA Eduskills

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iPrimed

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Lend A Hand India (LAHI)

Magic Bus India Foundation

Medha Learning Foundation

New Resolution India/Bright Future

NIIT Foundation

PanIIT Alumni Reach for India Foundation (PARFI)

Pratham

Quest Alliance

SAGE

Team Lease

TMI e2E Academy

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Udyogini / Edubridge

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Foreword



Maneesha Chadha
Head - CSR, India & Co-head, Global Philanthropy, APAC, J.P. Morgan

Skill development is a key national priority and an entire ecosystem has developed around it with strong support from the government and rightfully so given India's unique position in the global demographic dividend. The large scale investments in jobs and skills warrants a closer examination on how the sector is performing and where it is that we, as conscious stakeholders in the sector, can contribute to it becoming even better.

It is towards this objective that J.P. Morgan collaborated with NASSCOM Foundation and Sattva to understand the return on the investments that are being made in skill development – are programs delivering outcomes as intended, how are different models working, where are the levers that maximize impact and so on.

While this study was being undertaken, labor markets across the world were shaken up by the COVID-19 pandemic. Skill training organizations and their supporters came together to make sure that the young people so severely impacted by the pandemic, are not left behind. Training models were rapidly adapted to go online and curriculum modified to reflect the reality of the labor market's demands. Though severely affected, the skilling ecosystem in India rose to the occasion and also offers us the opportunity to understand the innovations that allowed them to stay true to their commitment to provide a better future to young people across the country.

I would be amiss if I did not take this opportunity to thank my peers and colleagues who have actively contributed to the shape and form of this study – Kshitija Krishnaswamy from Accenture, Rahil Rangwala from Michael and Susan Dell Foundation and Murugan Vasudevan from Cisco. Others who played a crucial role in truly making this a sector-wide study are Alliance of Skill Training Partners, L&T Construction Skills Training Institute, IBM, Tech Mahindra Foundation and all the training organizations and non-profits who have been gracious to share their data with us.

We hope the findings of the study spark a conversation between the diverse group of stakeholders committed and invested in developing the country's future workforce.

“The large scale investments in jobs and skills warrants a closer examination on how the sector is performing and where it is that we, as conscious stakeholders in the sector, can contribute to it becoming even better.”

Introduction to the Report



Srikrishna Sridhar Murthy
Co-founder & CEO, Sattva Consulting

The role of data is becoming increasingly critical in the social impact ecosystem to help us scale what works and focus on initiatives that are designed to scale. We are hence happy to partner with J.P. Morgan on this initiative to benchmark the Return on Investment (ROI) of Skill Development programs across the country.

The results of the study underscore the need for the study itself. Our analysis shows that the cost per candidate varies from Rs.2,800 to Rs. 48,000 across organizations. Inputs to the program such as duration (30 days to two years), training of trainers and placement processes vary greatly across training providers. However, there are currently no insights on the impact of these inputs on trainee outcomes. In order to ensure that the limited philanthropic capital that we have is judiciously spent, it is important to build a stronger understanding of what the current ROI in skill training is, and more importantly what it would take to improve the same.

The study looks at a few key levers that play a critical role in influencing ROI. For instance, the data highlights how graduate candidates gain significant leverage through an advanced skill training program integrated into their college compared to attending a centre-based training program post their graduation. Similarly, an increase in practical training by 50 hours for technical training programs can have a significant impact on starting salaries of youth. Refining selection procedures during counselling and on-boarding has a direct impact of starting salaries as well.

While these are important insights, we are still limited by the quality of the current data provided by the skill development ecosystem. There is a clear lack of quality data across training partners on both candidate level outcomes and costs. Comparative analysis of cost and benefits of models focused on the same sector or candidates is difficult even when funded by the same donors. This hinders the cross-learning opportunities for implementing organizations to adopt cost-effective delivery models.

We are committed to further data-led decision making in the ecosystem and are keen to work with a wide range of partners and donors in scaling this effort beyond its current scope. We take this opportunity to thank J.P. Morgan for their support and always being a thought partner in doing what is right and valuable to the overall ecosystem.

We hope you find the insights helpful and look forward to hearing from you.

“The role of data is becoming increasingly critical in the social impact ecosystem to help us scale what works and focus on initiatives that are designed to scale.”

Advisory Panel Members



Ashok Pamidi
NASSCOM
Foundation

"Skill training is absolutely the number one priority for the industry. India enjoys a demographic advantage of being one of the youngest countries. To make our country the skills capital of the world, the way we conduct skills training - the skill training models are as important as the curriculum itself and this much-needed study in partnership with Sattva and supported by J.P. Morgan provides critical know-how on how these models are evolving, what works and what needs to be changed. We hope that this study helps numerous skills training organizations out there to restructure, refine and further sharpen their skills training approach to get the maximum ROI for their students."



Rahil Rangwala
Michael and Susan
Dell Foundation

"With a surge in strategic investments and establishment of social stock exchange, a common benchmark to inform funding and programmatic decisions is crucial for skill development in India. This landscape study on understanding the ROI of skill training provides the foundational metrics to improve existing and future interventions. As part of the advisory council for this study, I believe that funders can leverage these insights to think about how they can derive a better social return on their investments for skill training programs."



Murugan Vasudevan
Ex-Cisco

"Market driven models are continuously evolving in the skilling ecosystem. With the adoption of digital tools for skill development across sectors, it's easier to achieve scale. At the same time one must look at other levers and contextual factors while designing skilling models for a better return. This report throws light into some of the most critical factors that influence ROI of various skilling models and should enable effective decision making for investments in skilling."

Knowledge Partners



Navanit Samaiyar
ASTP

"Enablement of the Training Partner Ecosystem and adopting mutual best practices are the key drivers for scaling impact in the skill industry. At Alliance of Skill Training Partners (ASTP), we firmly believe that India is firmly poised to become the Skill Capital of the Globe. As a voice of the industry and the candidates, we thank J.P. Morgan to take up this study and we believe this study will create an opportunity among all the stakeholders in the ecosystem for cross learning and knowledge sharing."



S. Ramkishore
L&T Construction

"The CSTIs of Larsen & Toubro have implemented an industry-led skilling model, thus best matching the employer needs and skill sets of the trainees. This also has an edge on better industry engagement of the trainees. We are data savvy and recently launched an integrated digital process monitoring tool, to track performance of every process including the beneficiaries. I appreciate the study conducted by Sattva both for evaluating various models in the country's skilling ecosystem and for understanding the RoI."



Rumi Mallick Mitra
IBM CSR

"Technology has taken the center stage for skill development and redesigning the models of delivery in India. Tech driven LMS platforms have changed the way youth hone their employability skills for the 21st century. It is important to measure returns from a skill acquiring stand point, as well as from the context of how new learners are able to adopt and thrive in the current digital transformation ecosystem. The study on 'Understanding the ROI of Skilling in India' will definitely bring stakeholders to discuss and adopt ROI at the design stage of a skilling model."



Rakesh Soni
Tech Mahindra Foundation

"The impact of COVID-19 on the industry has been significant, resulting in job losses, reverse migration, shrinking of certain industries leading to increased demand on the overall vocational training space. Having said that, COVID-19 has also acted as a catalyst for social transformation and allowed us to turn into a more responsive, agile, and innovative organisation in skilling. We've adapted to the use of digital interventions for mobilization as well as the overall learning experience of the youth as a part of our programs and finding placement opportunities that are relevant to the post-COVID market scenario. Having been part of this study as a knowledge partner, I hope that the insights prove to be relevant and useful for all stakeholders in the skilling ecosystem."

Skill Training Partners



Pranav Kumar Choudhary
Dr. Reddy's Foundation

"COVID-19 has brought upon tremendous challenges to the skill development ecosystem and its delivery models. But as we say "never waste a crisis" - increasing agility, increasing innovativeness, increasing use of digital technologies, and improving decision making process by bringing in data discipline and transparency have helped skill training organizations to recover fast and design new solutions. Having been part of this timely study, I am sure study insights will be very helpful to replicate best practices for bettering ROI."



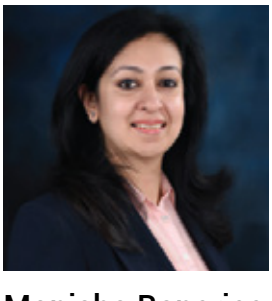
Priya Agrawal
Antarang Foundation

"The year 2020, more than ever, has shone the spotlight on the availability and gaps in data to make impactful decisions. This year has seen the job market shrinking, unemployment rates growing and funding in the sector compromised. Hence, the need to track, monitor and understand the opportunities and challenges at both the ecosystem and the programmatic levels has become imperative to decide which solutions would work most effectively at scale. This employability ROI study provides both crucial data driven insights and the monitoring processes that make for impactful interventions in the sector."



Nikita Bengani
Quest Alliance

"In order to amplify impact on ground, meaningful partnerships at scale with the State and other like-minded organizations and industry are essential, where each maximizes their own particular strengths to co-create solutions for collective action. Leveraging technology as a core enabler, and building capacities of stakeholders like leaders and educators becomes critical. Gender equity in particular requires a special focus, where young women are enabled and empowered to make choices about their learning and career pathways. This study showcases how organizations can stay agile and evolve learning and engagement models to quickly adapt to changing realities."



Monisha Banerjee
Anudip Foundation

"The last decade has seen a slowly evolving skilling ecosystem, with COVID-19 disrupting the marketplace with lightning speed. The consistent success factor has been the ability of implementing agencies to drive market aligned skills training. As businesses change and job roles evolve, the need for the skilling ecosystem to be flexible and respond to those changes with agility is critical in order to truly deliver value. A landscape study such as this one, will certainly provide the necessary direction to skill-providers to remain relevant in a disruptive market."

Executive Summary



Skill development is a key national priority and is today supported by the government as well as private organizations. Between 2015-20 the flagship skill development program Pradhan Mantri Kaushal Vikas Yojana (PMKVY) reached out to about 72 lakh youth. Pradhan Mantri Kaushal Vikas Yojana 3.0 launched in January 2021. The five-year plan for PMKVY in 2021-22 has set an ambitious target of skill training 1.5 crore youth[1]. Along with Government efforts, 328 private organizations contributed INR 1653 Cr. towards 775 projects in skill development through CSR funding to reduce the skill gap in India[2]. The union budget 2021 specifically set aside INR 3000 Cr. for training and upskilling of Indian youth, demonstrating the key role that skill development will play in the nation's post-COVID rebuilding efforts[3].

The large scale of investment in jobs and skills warrants a closer examination on how the sector is performing, and to critically examine the return on investment (ROI) in skill development initiatives. J.P. Morgan collaborated with NASSCOM Foundation and Sattva to study this. Between April 2020 and February 2021, Sattva analyzed data across 27 skill development organizations and 33,000 candidates trained by these organizations. The sectors included Banking, Financial Services and Insurance (BFSI), ITeS, Construction, Retail and Healthcare.

1. "Pradhan Mantri Kaushal Vikas Yojana 3.0 (PMKVY 3.0) 2020-21". Msde.gov.in. 2020.https://msde.gov.in/index.php/en/schemes-initiatives/short-term-training/pmkvy-3.0.
2. "CSR and Skill Development Projects in India (FY2019)." 2019. Ngobox.org. 2019. https://ngobox.org/detail_resources_CSR-and-Skill-Development- Projects-in-India-(FY2019)_27
3. "Union Budget." 2021. Indiabudget.gov.in. 2021. https://www.indiabudget.gov.in/.

11 Key Insights

What are the levers influencing ROI of various skilling models?

1.

There are wide variations in the ROI of the current skill training programs

The ROI of skill training programs has varied from 2 to 19, that is, for every rupee invested in skill development programs the return (measured based on salary to the candidate) can vary between INR 2 to 19.

2.

There are two approaches to higher ROI

Of the 15 program models that were analyzed, four programs had higher than median ROI achieved through increased scale, while three programs had higher than median ROI through improved salary per candidate.

3.

Increasing investment in a program has not always resulted in higher salary per candidate

Across the 15 models studied for ROI, a weak correlation was observed between cost per candidate and candidate salary. There were eight programs that had lower than median ROI since the cost of inputs did not translate into effective outcomes (measured as salary) to the participants.

What are the practices and models in skill training offer maximum incomes to the candidates trained?

4.

Training programs conducted within academic institutions provided better salaries for graduate candidates than external training centre programs

Integrating training programs for graduates within academic institutions has shown 53% higher salaries, compared to salaries that candidates who were graduates received post training in external training centres.

5.

Advanced technical training has enabled higher salary among candidates when trained in person compared to blended training

For trainings conducted within campus in academic institutions, candidates trained in offline models have received a 46% higher salary compared to candidates trained through blended learning (combined face-to-face training with learning management systems or mobile applications).

6.

Integration of digital literacy into sector-focused training has provided higher salaries to candidates

Candidates who underwent sector-focused training along with digital literacy earned 39% higher salaries, adapting better to increased digital literacy needs in healthcare, BFSI and ITeS job roles.

7.

Investment in hands-on training in training programs with a focus on advanced technical skills resulted in higher candidate salaries

Increase in practical hours by 50 hours of training shows an increase in salaries earned by candidates by INR 15,400 per annum, starting from INR 78,000 per annum (in cases where practical training focused on technical skills).

8.

Effective selection and onboarding mechanisms have provided better salaries for candidates

Candidates that were selected based on aptitude, reasoning levels, had 15% higher salaries through training on communication and interpersonal skills in sector agnostic training. Candidates received 32% higher salaries when trainers were involved in mobilization of candidates for sector-focused training.

How have skill training organizations adapted through COVID-19?

9.

74% of the organisations pivoted to new models and practices within 5 months of lockdown

88% of the organizations had found ways to stay updated with the change in employer needs, candidate aspirations, funding and policy ecosystem. 74% of the organizations shifted to online learning models based on internal capabilities and candidate needs by August 2020.

10.

Mobilization, training and placement have been converted to digital modes

The training partners have shifted to digital models by customizing and digitzing their training content to be suitable for online training and integrated Learning Management Systems to training and progress monitoring at candidate level.

11.

75% of the organizations shared increased demand for cross sectoral placements

75% organizations shared an increase in demand for cross sectoral placements. Organizations increased the content and duration of sector agnostic skills focused on remote working and digital platforms.

Recommendations and Way forward

The study highlights how the programs with the highest costs do not often result in the highest outcomes for the candidates. It also highlights key factors, from how candidates are mobilized, to how training duration is structured, can have an impact on the ROI of the program. Given the limited philanthropic capital in the sector, funders invested in skill development should ensure a focus on ROI by –

Building ROI as a strong outcome metric for measuring effectiveness of programs

Assessing key cost elements and their impact on outcomes for the candidates

Investing in building partner capability in collecting and analysing ROI data

Wherever possible, design cohorts to identify the impact of a particular level on trainee outcomes

Focusing on these aspects during the design of the program and not at the time of evaluation will be critical to achieve optimal outcomes. The current study demonstrates the possibility of a return-on-investment study in skill development and how it helps us identify key levers to improve trainee outcomes. To be truly valuable to the ecosystem, it is important to build a comprehensive and ongoing ROI study that brings together diverse stakeholders from the skill development ecosystem in India.



Overview

The study aims to benchmark the Return on Investment (ROI) of various skill training models - in pre-COVID India - by consolidating and analyzing historical data of skill training partners across diverse industries. The study analyzes the costs, practices and the starting salaries enabled by these programs to assess the comparative ROI across diverse programs and isolate specific factors that positively impact the outcomes of the programs.

Since the study was conducted during the COVID-19 pandemic, the study also explored how organizations have adapted to the pandemic, and its subsequent impact on Return on Investment.

The key objectives of the study are to answer three questions:

1. **What are the levers influencing Return on Investment (ROI) of skill training models?**
2. **Which practices and models in skill training offer maximum incomes to the candidates trained?**
3. **How have skilling organizations adapted through COVID-19?**

Who is this report intended for?



Funders to Skilling Development

To benchmark the future investments based on funding priorities



Policy Makers

For key inputs on models that could work at scale



Employers

To inform new sources of skilled workforce and scope of participation



Skill Development Organizations

Cross learning on best practices for maximizing returns for target candidates and sectors

The study was conducted between April 2020 and February 2021 and analyzed data across 27 skill development organizations and 33,000 candidates trained by these organizations. In order to ensure that the study is representative, the organizations were chosen across diverse sectors and implementation models. The sectors that were covered included Banking, Financial Services and Insurance (BFSI), ITeS, Construction, Retail and Healthcare.

While six of the organizations had their training programs delivered on campus through academic institutions for graduate level candidates, 18 organizations delivered their programs through external training centers. 16 of the organizations had a specific sector specialization as part of their training program while the rest of them focused on a sector-agnostic skill training program. Prior to the COVID pandemic, three organizations had a blended model of delivery while 20 organizations had an offline model of delivery for the programs (which of course shifted during the COVID pandemic). Among the 33000 candidates, there was an almost equal gender mix, with 53% of the candidates being male, while the other 47% were female. The candidates were distributed across Tier I, Tier II and Tier III cities.

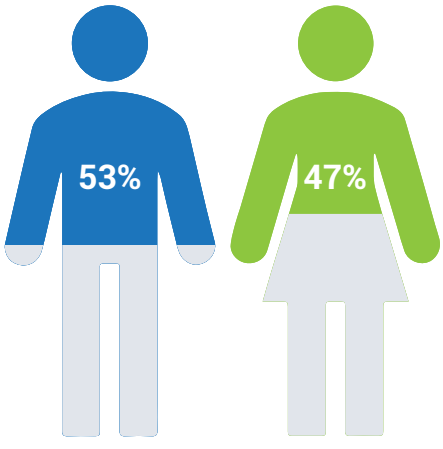
33,000 candidates trained across different locations



Tier 1
43%

Tier 2
15%

Tier 3
42%



Education Level

10th or below | 11th/12th | Graduation | Post-Graduation

Sectors

BFSI | ITeS | Construction | Retail | Healthcare

27 skill training organizations with varied models of training delivery

Types of Training

Academic Institution

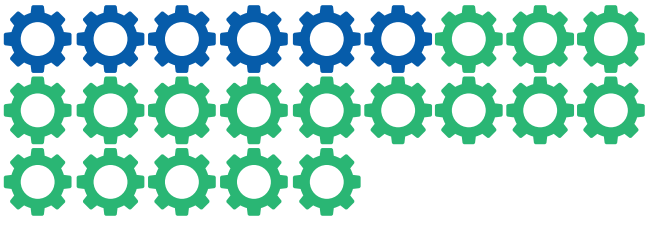
Conducted through academic institutions such as engineering/graduate colleges, ITIs etc

6 organizations 14% candidates

External Center

Conducted through standalone training center

17 organizations 86% candidates



Academic Institution | External Center

Focus of Skill Development Training

Sector Specific

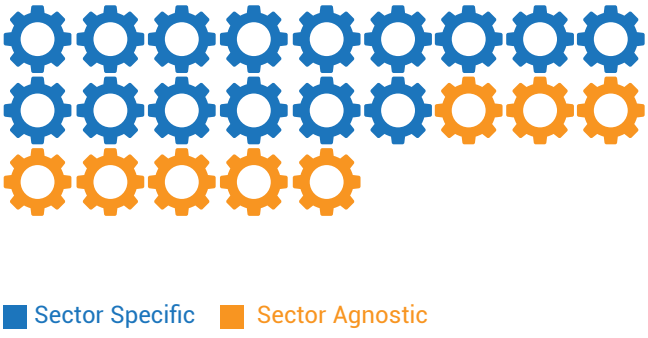
60% or higher course content focused on sector specific technical skills

16 organizations 61% candidates

Sector Agnostic

60% or higher course content focused on sector agnostic skills like life skills, digital literacy, etc.

8 organizations 39% candidates



Medium of Training Delivery

Blended Model

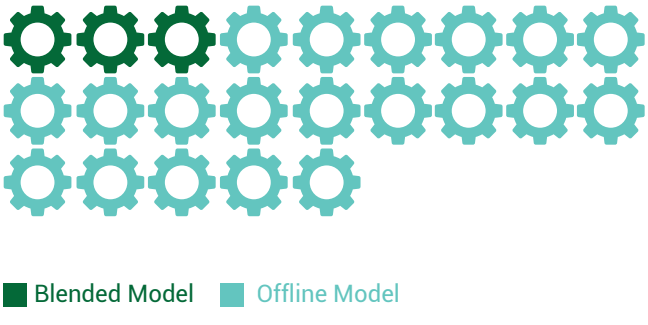
Delivered in person as well as through digital mediums such as an app or web portal

3 organizations 10% candidates

Offline Model

Delivered in person to the candidates

20 organizations 90% candidates



For standardised measurement, the study used two key metrics that could be applied to all organisations

1.

Return On Investment

Return on Investment was defined as the ratio of average annual salaries of the candidates to the total cost of implementation of the program

2.

Returns

Returns were measured based on the average annual salary of the candidates placed through the program

RETURN OF INVESTMENT =

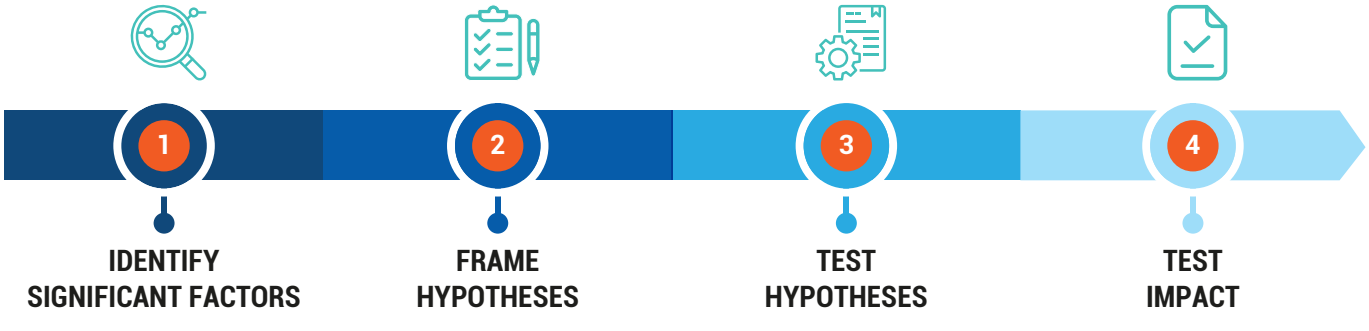
$$\frac{\text{Number of candidates trained } \mathbf{X} \text{ Placement \% } \mathbf{X} \text{ Average annual salary of placed candidates}}{\text{Program cost incurred}}$$

Analysis Approach

Sattva mapped potential factors which influence candidates' salaries. The following variables were considered for the study:

Sectors | Training Model | Medium of Delivery | Training Practices | Education | Gender | Location

A mix of statistical methods were applied, to identify the influencing factors on the annual salaries of candidates. The following stepwise procedures were deployed:



1. **Identified the significant factors from the pool of potential factors which can influence the salary of the candidate**
   - Framed Multivariate regression model using list of above-mentioned independent variables and salary as the dependent variable.
   - Using stepwise regression, removed independent variables which are not affecting the salary. The model with minimum Akaike information criteria (AIC) value is selected as best model for estimating the salaries
   - Established validity of multivariate regression model with the adjusted R-squared value (62%)

2. **Hypotheses were framed based on significant factors identified**
   - Hypotheses were framed starting with two combinations of variables and then iteratively including list of the all the possible variable combinations

3. **Hypotheses were tested using the T-Test**
   - Used p-value ($p<0.05$) from T-Test, to accept the hypotheses framed
   - Used p-value ($p>0.05$) from T-Test, to reject the hypotheses framed

4. For **testing the impact** of **continuous variables** (like duration of course), **correlation analysis** was used

The key insights discussed in the upcoming sections of the report have been identified based on statistical relevance through the above approach, that is, statistically valid regression modelling and hypothesis testing through t-test.

Limitations of the Study

Following are some of the known limitations of the study

1. 

Quality of data

One of the key challenges in measuring the ROI of programs today is the absence of good quality data. Of the 27 training partners shared ROI data, 23% of the partners could not provide income data at a candidate level. We have based our analysis on the existing quality of data without making any assumptions on costs and cost classification. The initial section highlights insights as those that demonstrated high correlation. We have explicitly called out insights that had a weak correlation based on the quality of the data available.

2. 

Salary as the intended outcome

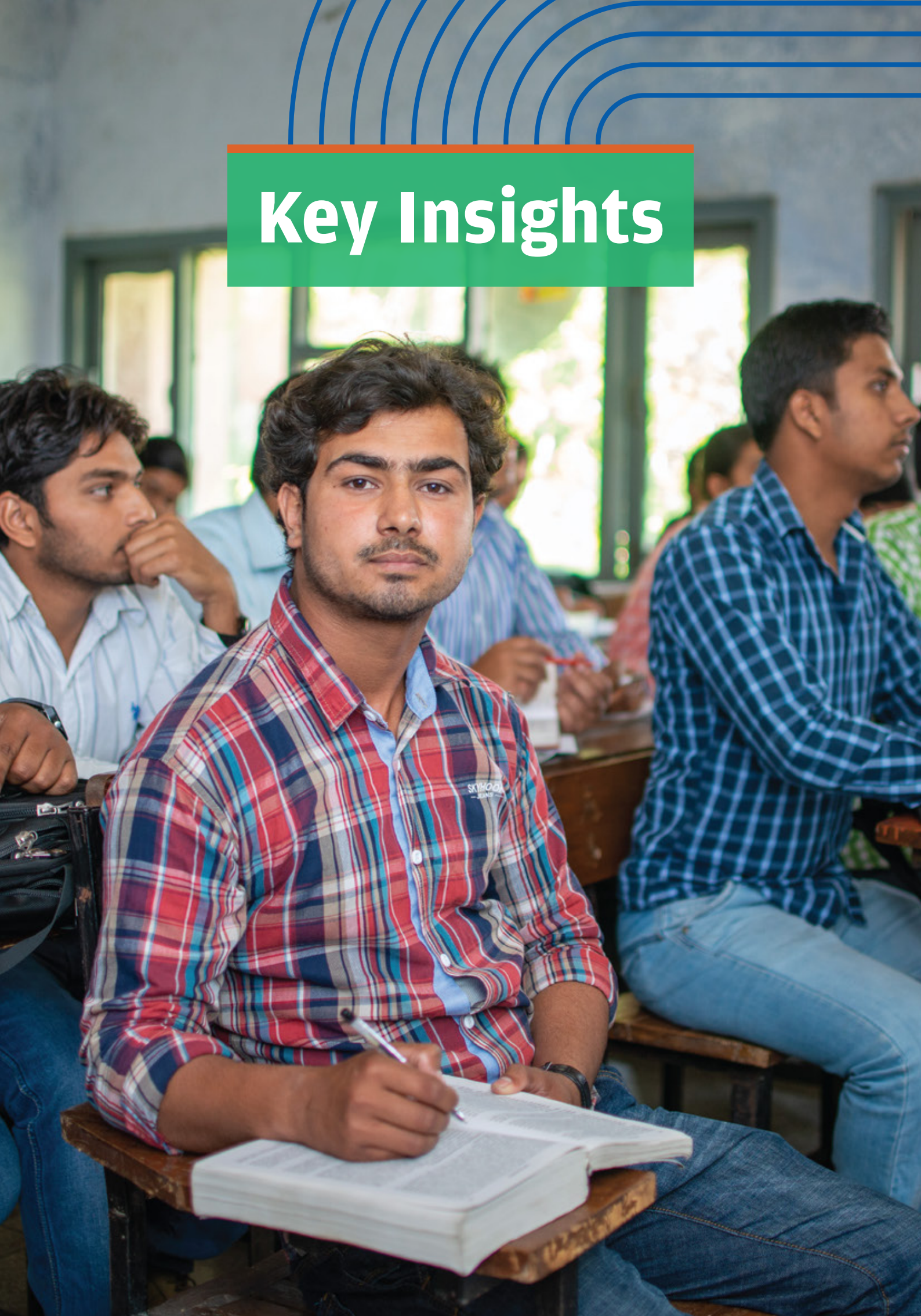
Given the diversity of the programmes that we analysed, the study chose the starting salary as the key outcome indicator to measure the effectiveness of the program since it was an indicator that can be applied across diverse programs. Due to the same, current programs that are focused on upskilling those who are currently employed, or programs focused on school students are out of scope from the current study. Similarly, while there are arguments about long-term career progression and retention as being key outcomes for skill development, there are currently no standardised indicators or sufficient data on these outcomes. While we continue to invest in improving the quality of data, the current study leverages the existing data available from programs.

3. 

Calculation of Return on Investment against Returns

To accurately measure the Return on Investment, it is important to have an accurate assessment of costs of the training partners. Currently the costs across partners are highly inconsistent. There are arbitrary allocations across cost heads and variable apportioning of head office level and centre level costs. 87% of the training partners could not provide program cost staggered by location – In other words, they had the same per candidate costs across Tier I, II and III centres. Hence, in the current edition of the study, we have focused a large part of our analysis on returns, measured as the average starting salaries of the candidates. We have included some key insights on the ROI, wherever the data is available.

Key Insights



1.

There are wide variations in the ROI of current skill training programs

The return of investment (ROI) has been measured as the ratio of aggregated starting salaries of the aspirants to the aggregated cost per candidate. Based on this, the ROI of skill training programs vary from 2 rupees to 19 rupees. In other words, for every rupee invested in skill development programs, the return (measured based on salary to the candidate) can vary between 2 rupees to 19 rupees. The median ROI of the programs that were evaluated was 6.67 with the following distribution across sectors and types of programs:



2.

There are two approaches to higher ROI

There are two broad categories of programs that have demonstrated high ROI.

1. Models designed for scale have been able to bring down the cost per candidate

The first category includes models that are designed for scale and thus have been able to bring down the cost per candidate. Such scale models are most appropriate for training programs that focus on sector agnostic training and do not have a strong technical focus. These models offer similar salaries as other programs but have significantly lower operating costs by increasing intake in the number of candidates. The higher intake is possible since these programs include candidates of varied education backgrounds, without technical knowledge as a prerequisite.

For instance, the programs below are focussed on training candidates with entry level technical skills and sector agnostic skills. While the annual salaries offered to candidates is between INR 1 Lakh to 1.3 Lakhs per annum, models operating at scale have been able to achieve lower cost per candidate, thus achieving higher ROI.

	ROI	Average Annual Salary	Cost per Candidate	No. of Candidates trained
	High ROI in Model 1 and 2	Comparable salaries across	Low for Model 1 and 2	High for Model 1 and 2
Model 1	**16.50**	1,00,584	**2,926**	**8,119**
Model 2	**11.18**	1,02,191	**6,763**	**10,411**
Model 3	6.67	1,28,088	12,281	1,200
Model 4	2.02	1,11,936	38,857	700

(ROI, Average Annual Salary, Cost per Candidate - Figures in INR)

2. Models have been able to demonstrate higher than average salary through focus on advanced technical skills

Secondly, there are models that have a higher per candidate cost but have been able to demonstrate higher than average salaries. These programs are able to invest in improving technical skills and have been able to match that higher value employment opportunities that are commensurate to the quality of training.

For instance, among the training models below focused on advanced technical skills - while the cost per candidate is comparable across programs - two of the programs have been able to provide an average salary of INR 2.7 to 2.9 Lakhs salary per annum, which is 40-55% more than comparable programs in terms of input costs.

	ROI	Average Annual Salary	Cost per Candidate	No. of Candidates trained
	High for Model 1 and 2	High for Model 1 and 2	Comparable across	Comparable across
Model 1	**12.63**	**2,90,633**	14,500	500
Model 2	**8.89**	**2,68,008**	17,480	115
Model 3	5.51	1,32,156	17,500	200
Model 4	6.05	1,62,747	27,000	1,004

(ROI, Average Annual Salary, Cost per Candidate - Figures in INR)

Of the 15 program models that were analyzed, four programs had higher than median ROI achieved through increased scale, while three programs had higher than median ROI through improved salary per candidate. However, there were eight programs that had lower than median ROI since the current cost of inputs did not translate into effective outcomes (measured as salary) to the participants.

3.

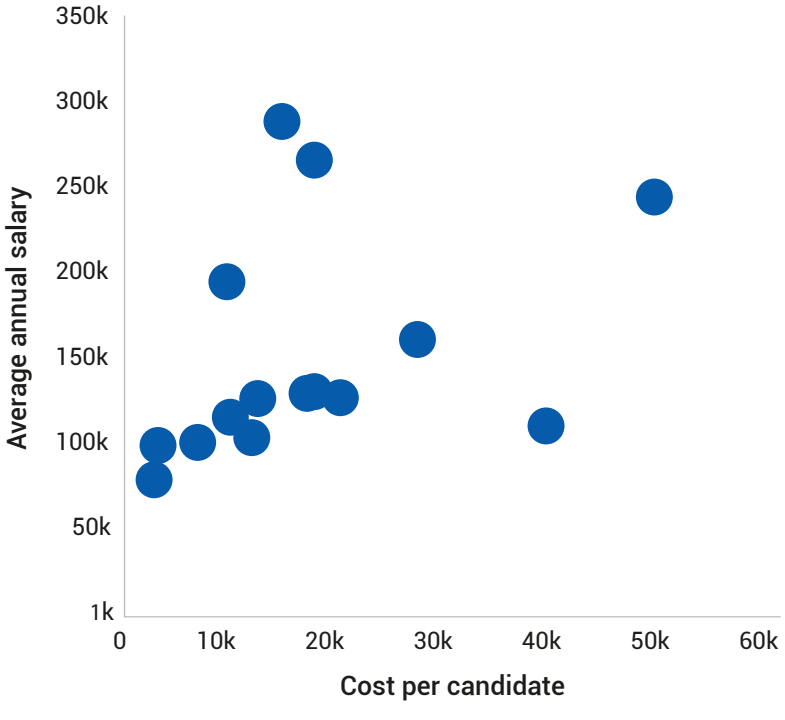
Increasing investment in a program has not always resulted in higher salary per candidate

Our analysis of salaries across the various training programs demonstrated a wide range of starting salaries for the different training programs.
One of the key observations from the analysis is that there is weak correlation between the cost of the training programs (measured based on the cost per candidate) and the returns of the program (measured based on salary per candidate).

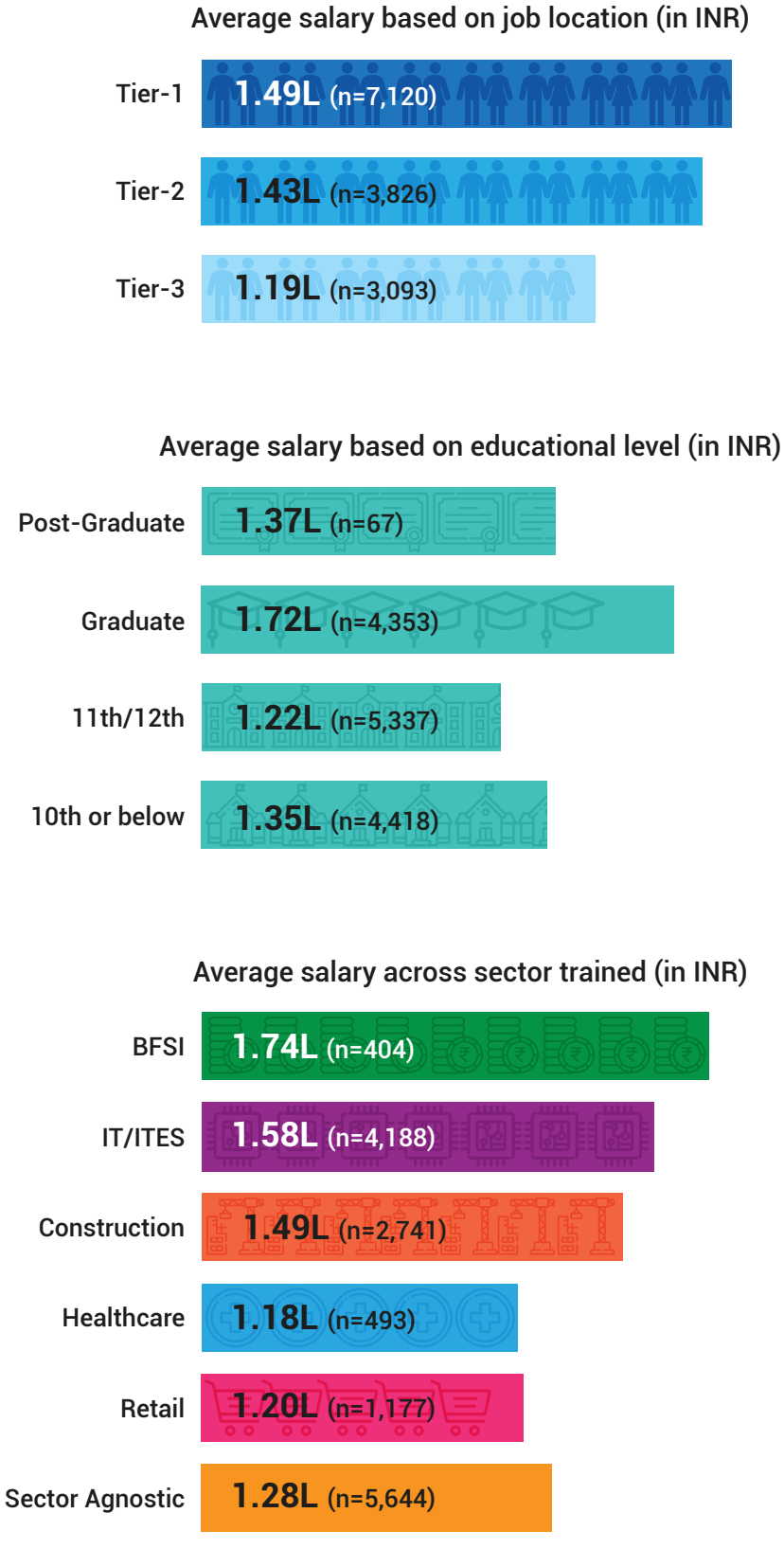
For instance, within the ITeS industry alone, there is a weak correlation between the cost of the training program and the resulting salary.

ITeS Training Programs					
Cost per Candidate	9,444	9,780	14,500	17,480	27,000
Average Annual Salary	1,96,574	1,17,069	2,90,633	2,68,008	1,62,747

Correlation between cost per candidate and average annual salary (in INR)



Hence our study focused on analyzing the key factors that influence salaries. As expected, there were variations by locations of the training programs, target candidates of the program and the industry. The median starting salaries of candidates across Tier I, Tier II and Tier III programs are highlighted below. In addition to the location, education level and sector in which the candidates have been trained, practices of the skill training programs and models of training have been analyzed to understand the range of starting salaries of candidates.



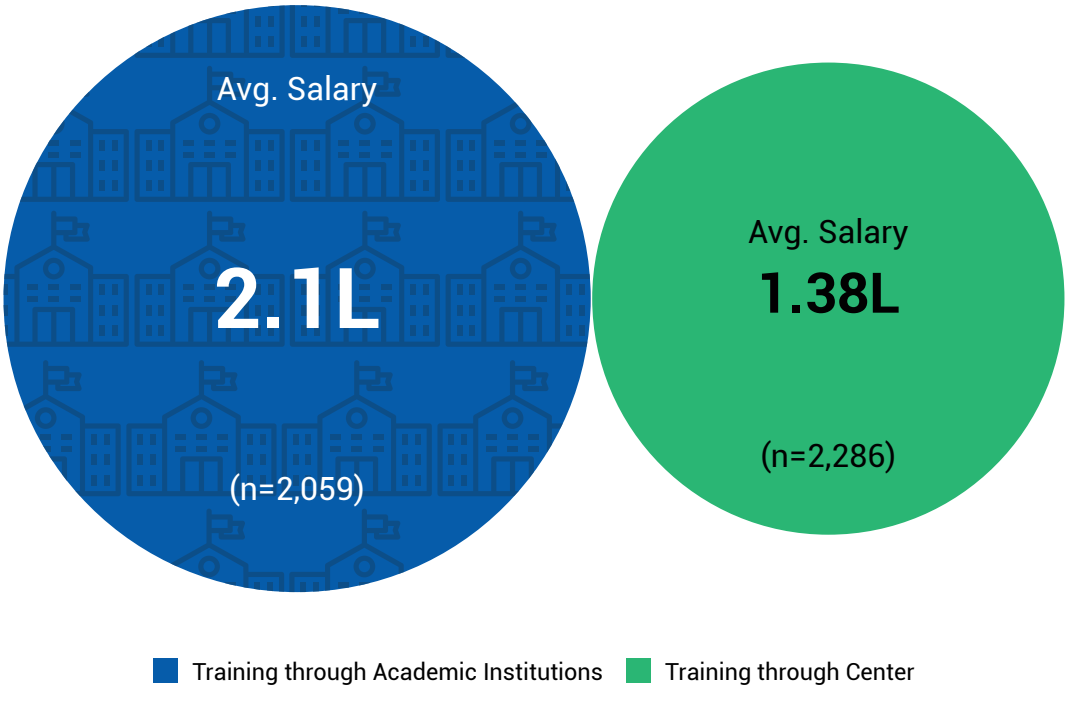
4.

Training programs conducted within academic institutions provided better salaries for graduate candidates than external training center programs

Among all the training participants assessed as part of the study, 31% of the candidates were graduates. Of these, 47% of the candidates attended a training program in their academic institution during their graduate degree, while 53% of the candidates attended a training program in external centers after their graduation. On an average, graduate candidates who attended training programs within academic institutions got 52% higher starting salaries than those that follow up their college education with a skill training program at an external center.

Graduate candidates attending a training program within their academic institution received an average salary of INR 2.1 Lakhs while candidates that went to an external training center received an average salary of INR 1.38 Lakhs. In the ITeS sectors, candidates that attended training programs within academic institutions have shown 1.56 times higher salary than those that attended training programs in external centers. Similarly, in the BFSI sector, candidates trained in academic institutions received salaries that were 1.65 times higher.

Average salary for graduates across partnership model (in INR)





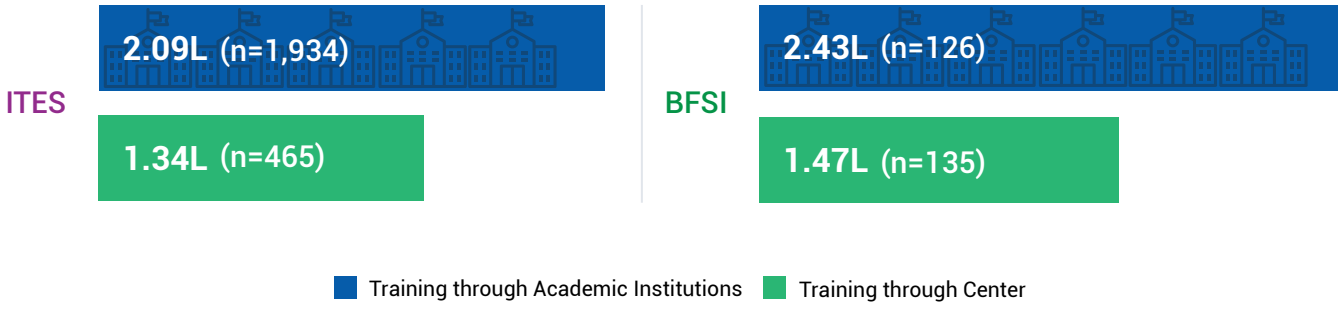
Discussions with skill training providers and analysis of the course content highlighted that **training programs in academic institutions in ITeS sectors have curriculum focused on advanced technical skills** such as Java, Big data analytics and so on, while training programs in external training centers have included curriculum with higher focus on basic ITeS skills like Microsoft Office and data entry. Evidently, the college-based programs have a curriculum and approach that is tailored to college students while the center-based programs are tailored to a wider range of candidates including those who have dropped out of schools.

In addition to higher salaries, programs conducted within academic institutions also resulted in candidates shifting from Tier III to Tier I cities. **72% of candidates trained through academic institution training models in Tier III were placed in Tier I cities, while only 11% of center-based candidates were placed in Tier I cities**. Salaries in Tier I cities were higher than Tier II and Tier III cities.

Primary interviews in the market highlighted the difference in perception of graduates hired from the academic institutions through placement interviews set up by a training provider, against those who were hired from training centers. Those from the colleges were hired for their advanced technical skills and hence received higher salaries.

Graduates who join programs in training centers map themselves against all other candidates and do not receive any market differentiation in the starting salaries. While there may be potential benefits in their future career progression, there are no data points to substantiate the same.

Average salary for graduates across sectors (in INR)



5.

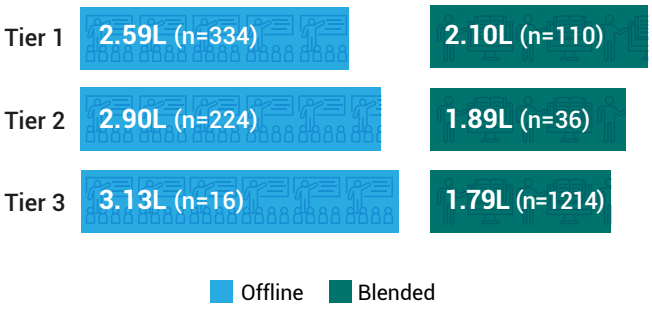
Advanced technical training has enabled higher salary among candidates when trained in person compared to blended training

Among the academic institution/college-based training programs, 28% of the candidates attended an offline model where the training was entirely delivered offline, and in person, while 72% of the candidates attended a blended model of training that combined offline training with online training elements such as web-based learning management systems (LMS) and mobile applications that complement the in-person training.

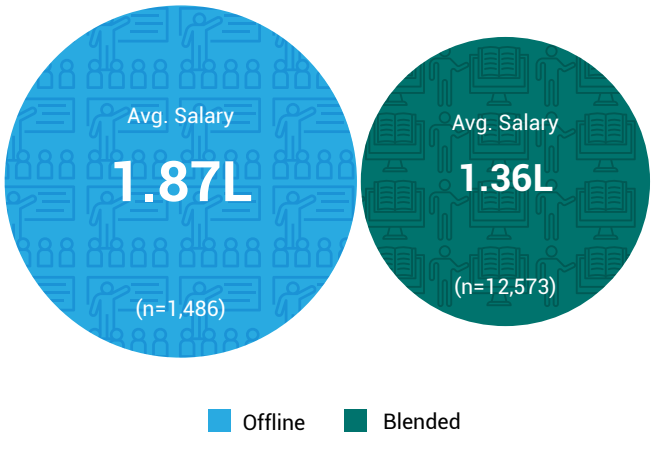
In the trainings delivered through academic institutions, it was observed that candidates trained in offline models have received a 46% higher salary in comparison to candidates trained through a combination of app-based and in person delivery.

Among graduates undergoing training in academic institutions, those receiving offline training received an average salary of INR 2.73 Lakhs while blended training received an average of INR 1.82 Lakhs. In the ITeS sector, candidates received 50% higher salary through offline training compared to blended training. This has been observed across campus-based training in all training locations that is, Tiers I, II and III.

Average salary for graduates trained in ITeS in academic institutions (in INR)



Average salary across delivery models fore delivered in academic centres (in INR)



As mentioned earlier, the programs delivered in colleges focus on advanced training concepts unlike center-based training programs. The discussions with the partners highlighted that online training was effective for topics such as communication, life skills and basic technical concepts. However, **advanced topics require an in-person trainer who can explain the concepts, help clarify doubts and support the learning experience of the candidates.**

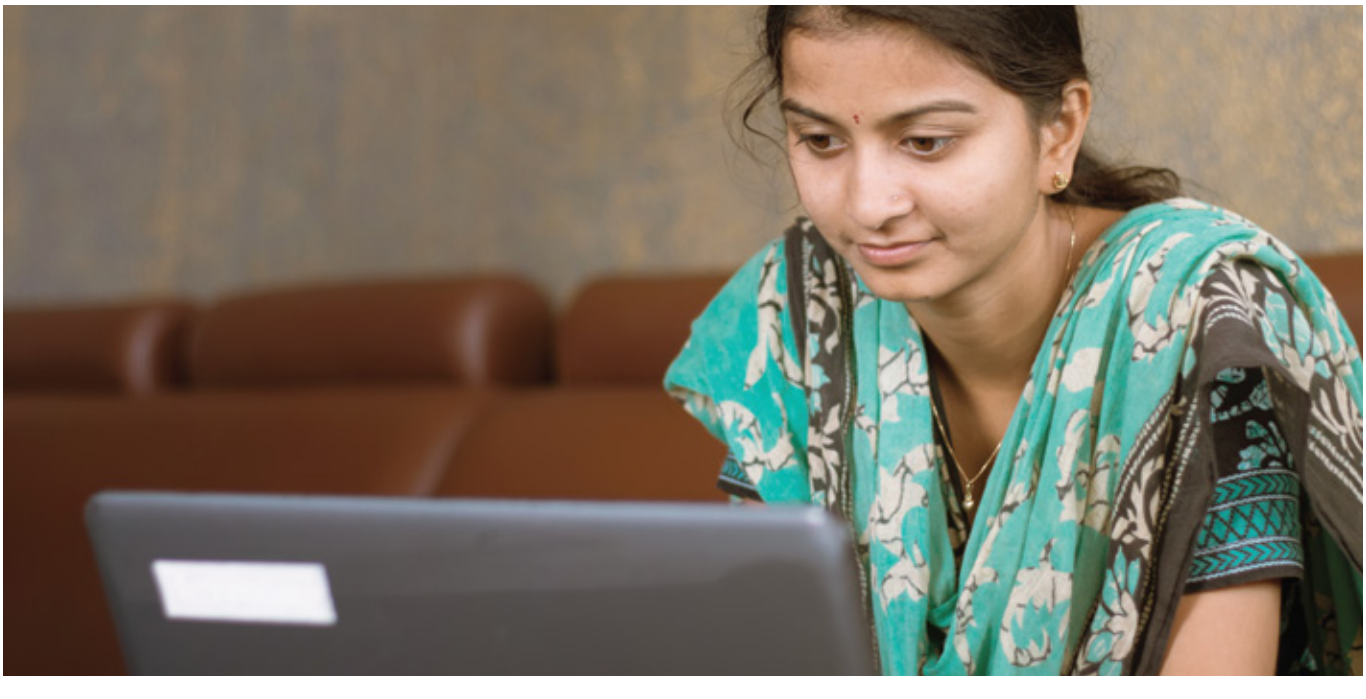
With the advent of COVID-19, the **blended and pure online training models are here to stay.** As learning solutions continue to mature, the capabilities to train candidates on complex concepts through technology will become possible. In addition, training providers will identify effective ways to leverage technology to complement their in-person training programs. In the meantime, donors and partners should ensure a strong focus on learning quality, especially on complex topics, during the training programs.

6.

Integration of digital literacy into sector-focused training has provided higher salaries to candidates

Sector-specific technical training programs form a critical part of the sample that was analyzed for the study. Candidates who attended sector-specific training programs comprised 61% of the overall sample, while the remaining 39% attended sector agnostic skill training programs. Within the sectoral-specific training programs, 72% of the candidates had spent training hours on sector agnostic skills like Digital literacy, Financial literacy, grooming and presentation, and interpersonal skills. This has been a critical investment since training programs that have a focus on digital literacy resulted in higher salaries for candidates. This is especially true in the healthcare and BFSI sectors where there has been a 39% increase in salaries of candidates who underwent digital literacy training.

Average salary by industry (in INR)



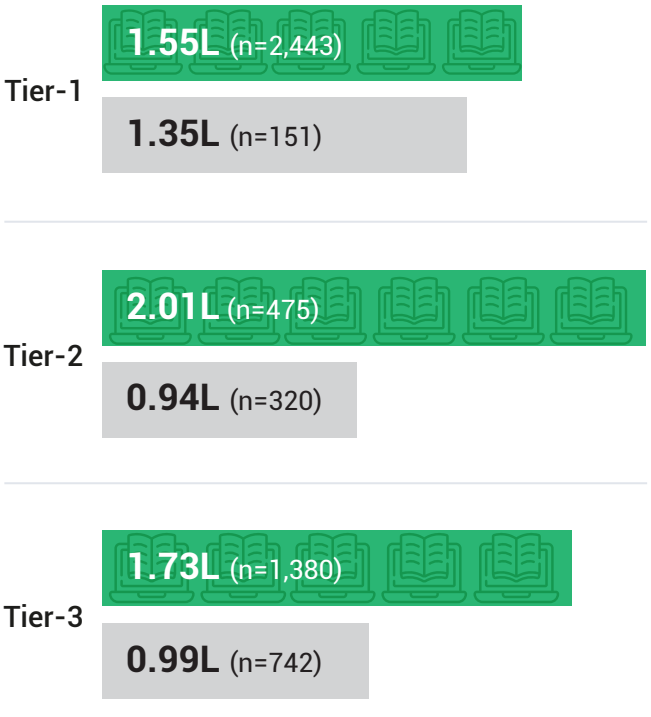
In the Retail sector, all the training models have included digital literacy as part of their soft skills curriculum, while none of the training programs in the Construction sector have included digital skills as part of their curriculum.

Primary research with training providers substantiated this trend with a **growing demand for candidates to have essential digital skills in the roles that they play in the Healthcare and BFSI industries.** Candidates placed in healthcare roles such as Lab technician, Hospital front office executive and home health aide in health care and in roles such as Customer service executive and Business

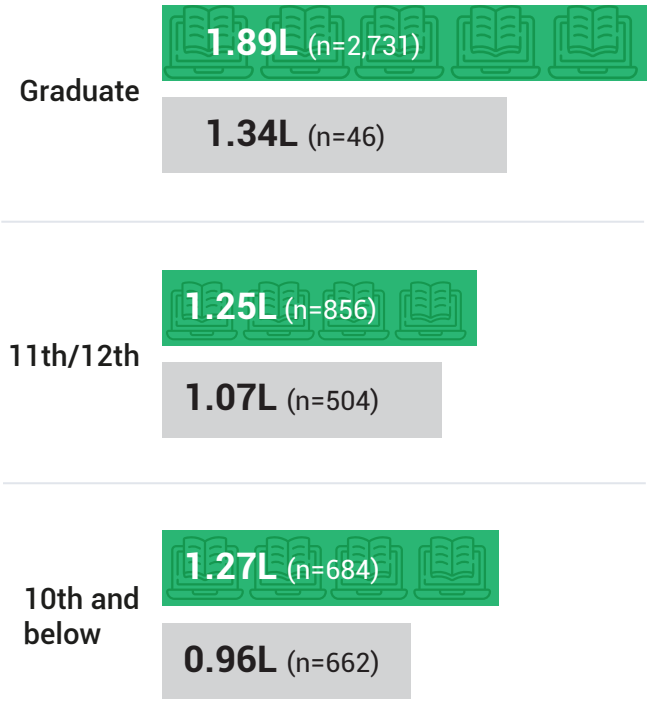
Correspondent in the BFSI sector have an increasing need for digital skills to navigate the internal systems and processes of employers. Employers also emphasised that digital skills support in role flexibility and hence better career transitions. With growing digitalisation across industries, **this trend will soon be visible across all industries.**

Hence it is critical for training programs that take a sector-specific focus lens to integrate focus on skills such as digital skills, grooming and presentation, and interpersonal skills. In addition to the allotted hours, effective and objective assessments of such skills ensure consistent delivery of quality across centers.

Average salary in different training locations in sector specific model (in INR)



Average salary for different education levels in sector specific model (in INR)



With Digital Skills Without Digital Skills

7.

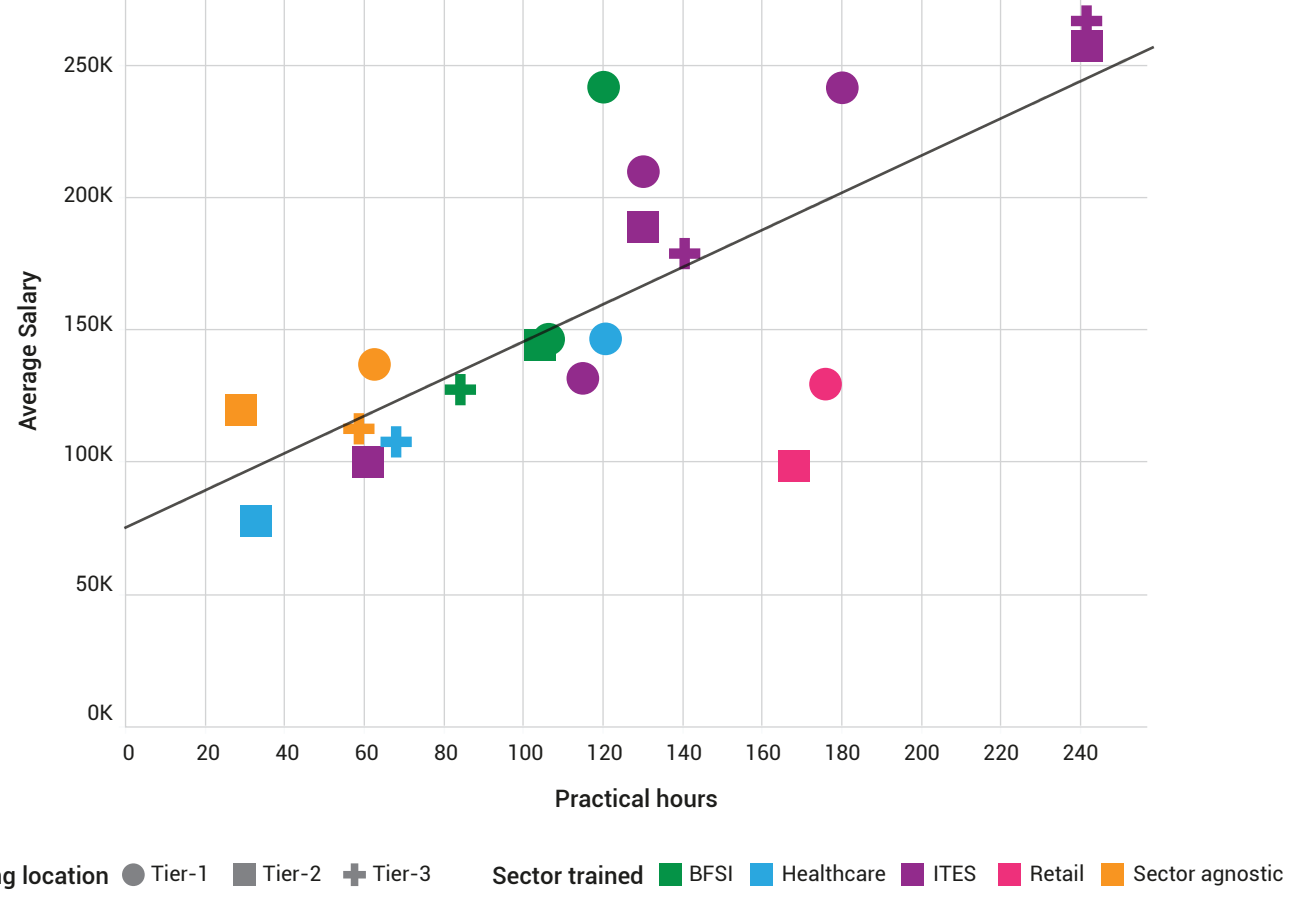
Investment in hands-on training in training programs with a focus on advanced technical skills resulted in higher candidate salaries

The course duration is a key input parameter for all training programs. Across sectors, the overall course duration was seen to vary from 120 hours to 450 hours, with an average course duration of 280 hours across sectors. The duration of training was higher in training on ITeS, Retail and Healthcare in comparison to BFSI and sector agnostic training programs.

According to the analysis, an increase in the overall duration of training does not always result in an increase in salaries of candidates. In other words, beyond a certain threshold there were diminishing returns from the time invested in the training programs. However, there is a correlation in the duration of practical training hours to the salaries earned by candidates. **Starting with 33 hours of practical hours and INR 78,000 salary per annum, an increase in practical hours by 50 hours shows an increase in salaries earned by candidates by INR 15,400 per annum.**

Engagement with training providers revealed the **increased value of practical hours among training programs focused on technical skills**, especially advanced technical skills, such as Analytics and Coding in ITeS and Lab diagnostics and operating diagnostic machines in healthcare. In such training programs the quantity and quality of training content are key determinants on the placement outcomes.

Impact of duration of practical hours on salaries (n=7838)



8.

Effective selection and onboarding mechanisms have provided better salaries for candidates

There is an ongoing balancing act in training programs between stringent selection mechanisms to identify candidates with the right learnability skills, and a more open approach to selecting candidates considering the on-ground challenges in mobilisation. Different types of selection and on-boarding processes are used by training organisations towards the final selection of candidates in the training program. Similarly, the role of the trainers in the mobilization process varies across different organisations.

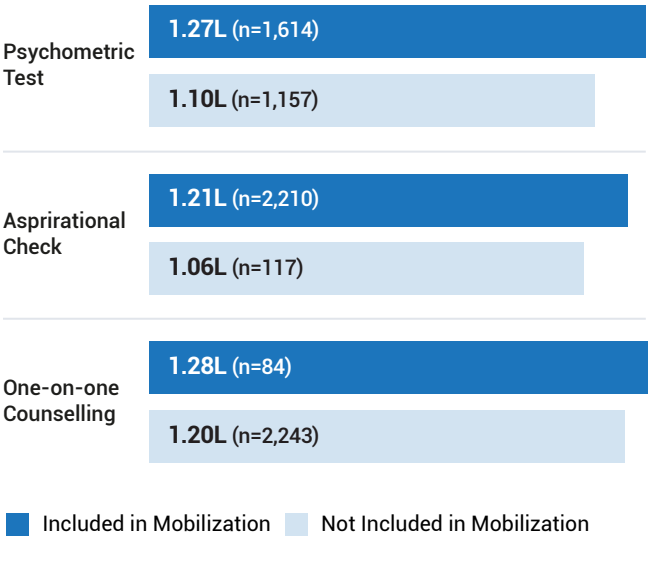
According to the analysis, candidates who were onboarded in sector agnostic courses - based on minimum criteria of aptitude and logical reasoning - had received 15% higher salaries than candidates who did not undergo any psychometric test as part of the onboarding process. **The basic selection process provides a minimum threshold of learnability of the candidates** and thus increases their chances of being placed and receiving a higher salary.

Similarly, candidates who have undergone aspiration checks to ensure alignment towards course content and opportunities post training have shown higher salaries compared to candidates who did not undergo an aspiration check.

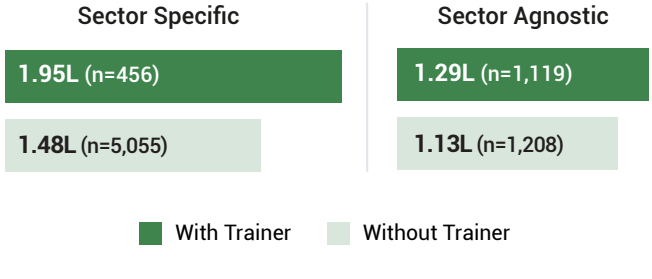
In programs focused on sector-specific training, it was seen that candidates have received 32% higher salaries when a trainer was involved in mobilization compared to when a trainer was not involved. It signifies **the role of a trainer in the mobilization process by identifying the right fitment of candidates suited to the sector and training program.** The variation in salaries when trainers were involved in mobilization was also seen to be higher in sector-specific programs in comparison to sector agnostic training programs.

While these processes have been effective in improving candidate salaries, alumni referral programs have not had a significant impact on salaries and have sometimes led to adverse impact. Hence while alumni referrals can be used as a channel to attract footfalls, it should be complemented with other processes such as aspiration checks, psychometric tests and one-on-one counselling by the trainers.

Average salary based on mobilisation practices for sector agnostic training (in INR)



Average salary when trainer is involved in the mobilisation (in INR)

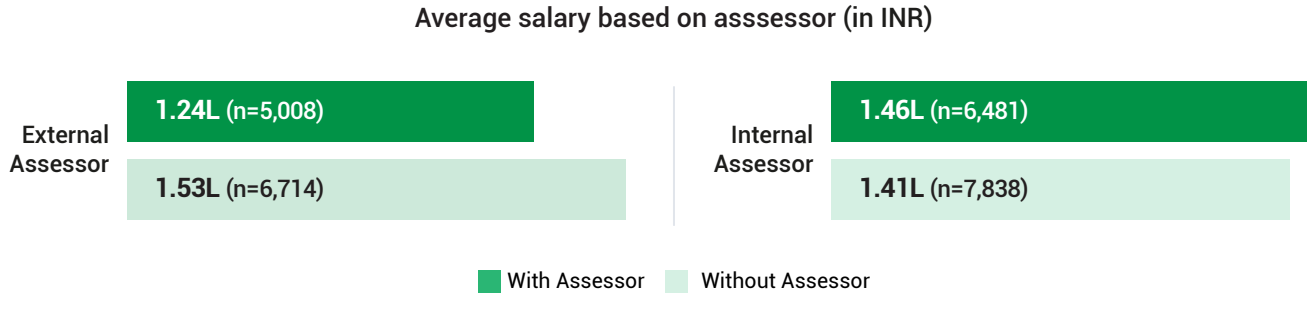


Factors that did not have significant impact on starting salaries

In addition to the key factors discussed so far, multiple program related practices have been studied to understand their impact on the starting salaries of candidates. The following key factors did not have a statistically significant impact on the starting salaries of candidates.

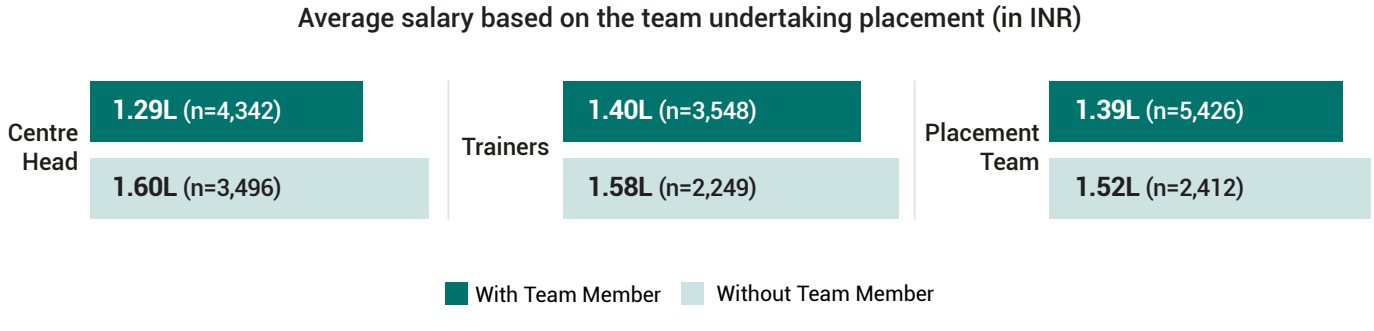
1. Having a dedicated content development team or alignment on any national framework of criteria within the curriculum did not influence the salaries earned by the candidates.

2. Except in the BFSI sector, including an external assessor at the end of training did not have a significant impact on candidate salaries across sector specific training. Primary research with employers recruiting candidates for entry level positions has also revealed that the external certification of candidates does not influence their selection decisions of candidates.



3. Standardization of training delivery with a day-wise plan or monthly plan.

4. Including the center head, trainer or dedicated placement team as part of the placement linkage process (employer connect and placement preparation for candidates).



5. Inclusion of guest lectures and exposure trips as part of training delivery and the frequency with which they are conducted.

6. Although a majority of the training partners had mapped candidate job criteria such as academic background, location, job timing and other interest areas to employer job description, the rigour of the matchmaking process is varied across programs, and has not shown significant impact on candidate salary.

How have skill training organizations adapted through COVID-19?

Since the current study was done during the time of COVID, there was a first-hand experience of engaging with skill training providers while they were pivoting their models to meet with the new COVID realities.

India's country-wide lockdown implemented to contain the spread of COVID-19 disrupted businesses across both informal and formal sectors. Many companies, facing constraints on capital and liquidity, had to cut costs. These measures impacted incumbent graduates, who faced a heightened risk of termination, or reduction/freeze in remuneration. As per the ILO-ADB report, out of 6.1 million estimated job losses, four million entry-level roles had already been lost as of August 2020.*

At the same time, there is an emergence of 25+ new and changing job roles across industries such as BFSI, IT, Healthcare, Retail and Construction (60% of private-sector jobs) across the industry.

6.1 million
estimated job losses as of August 2020*

4 million
entry level jobs lost as of August 2020*

25+
new, changing job roles across industries

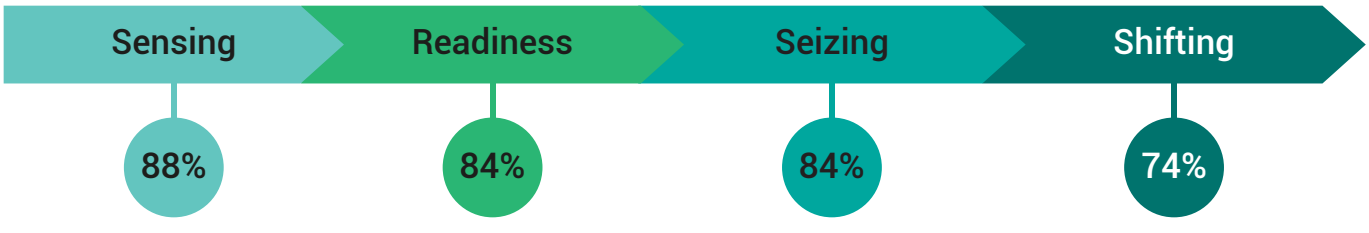


*Tackling the COVID-19 Youth Employment Crisis in Asia and the Pacific. 2020. Ilo.org. August 18, 2020. https://www.ilo.org/asia/publications/ WCMS_753369/lang--en/index.htm.

9.

74% of the organisations pivoted to new models and practices within five months of lockdown, that is, August 2020

The skill training organisations had to also adapt to the absence of physical training, limited means to mobilize candidates, readiness of the infrastructure and the trainers to the new reality while adapting to the changing market conditions. The study engaged with the organizations to map them on their response to their crisis as of August 2020. 88% of the organizations surveyed had found ways to stay updated with the change in employer needs, candidate aspirations and funding and policy changes, while 74% of the organizations were shifting to new strategies and operational models.



Understanding of opportunities and threats

Sensing key practices to stay updated with the change in employer needs, candidate aspirations, funding and policy ecosystem have been undertaken by partners

Mapping of organizational capacity

Readiness of the internal capabilities mapping related to feasible strategic and operational changes in training model practices have been taken up by the partners

Decision-making to reduce risk

Seizing of defined agile practice areas for continued implementation of programs have been undertaken by partners

To new strategies, models

Shifting of defined agile practice areas for continued implementation of programs have been undertaken by partners

Indicative activities

1. Internal or External study to study disruptions in demand and supply
2. Stakeholder level status from candidates and employers

1. Infrastructure, trainers, subject capability
2. Content suitability for changed model
3. Financial resources and funding resources mapping

1. Financial management through reduced investment in course development
2. Blended model, increased candidate counselling and monitoring

1. Online mobilization, training and placement
2. Online monitoring and evaluation through app or LMS
3. Video recording review

10.

Mobilization, training and placement have been converted to digital modes

Given the limitations of COVID-19, training partners shifted their mobilization, training and placement to digital modes. In order to achieve this, the training partners both customized and digitized their training content to be suitable for online training. The partners subsequently set up Training of Trainer (ToT) models combined with online tools for simulation training. In order to gather data at scale, the training partners established Learning Management Systems (LMS) and integrated candidate learning progress, attendance and evaluation data into the LMS platforms.

90% of the organisations faced challenges during this transition, notably around availability and quality of internet at the candidates' end, quality of infrastructure in the rural areas and challenges in motivation of the candidates to shift to a pure online model. Training providers invested in SIM Cards, internet packs and devices for candidates to address these gaps. In order to address the gap in motivation, the training partners leveraged their alumni network and support from the community towards counselling and mentoring of candidates.

The shift to online models is not only during training but also during and post the placement of candidates. Many organizations have established online connections with employers and enabled digital placement processes. Call centers and LMS were established to provide guidance to trainees on employment offers, job delays and provision of advances.

Post placement, organizations focused on strengthening the infrastructure at the candidates' end to effectively work from home (WFH). Candidates who received field roles such as delivery boys were provided guidance on necessary precautions with regard to social distancing. Organizations developed necessary monitoring mechanisms to track the out-of-job workforce and helped them get placed again.



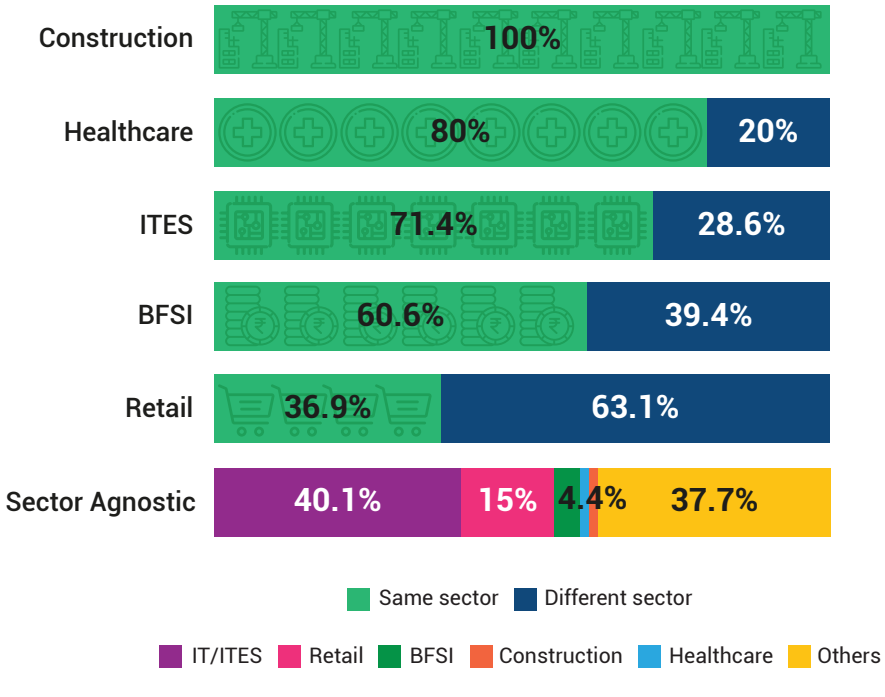
11.

Shift in skill profiles and increase in cross-sectoral placements

The COVID-19 pandemic also resulted in a shift in skills prioritized by the employers. Organizations have shared an increase in employer demand for digital literacy among candidates. 70% of organizations had candidates who expressed a need for capacity building, upskilling or reskilling to accommodate emerging work conditions. Organizations also increased the content and duration of sector agnostic skills focused on remote working and digital platform usage, along with communication and interpersonal skills. Our analysis of the historic data highlighted the presence of cross-sectoral placements even prior to COVID-19.

This was true in sectors such as BFSI and Retail where candidates trained were placed in other sectors based on the skills gained through the program. The high number of cross placements in these sectors signifies the role of sector agnostic skill training among the entry level work force.

Sectorwise placement of trained candidates (n=7838)

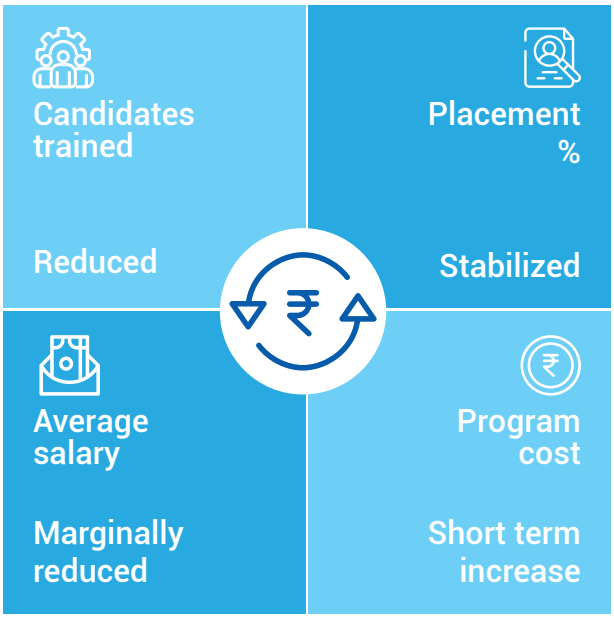


Given the continued churn in market demand across sectors, the number of cross-sector placements have increased. 75% of the organizations surveyed shared an increase in demand for cross sectoral placements. Skill training organizations have focused on cross skilling opportunities to help place candidates in emerging roles during the pandemic, including data entry, logistics and last mile delivery. In addition to demand side trends, even candidate priorities have shifted when looking for jobs.

65% of the organizations surveyed had candidates who expressed a change in preference for local jobs, closer to their homes because of the pandemic.

Impact on ROI Due to the COVID Shifts

While training organizations have shifted to blended and online training with changes in curriculum content, it is vital to tie in the progress of these changes compared to pre-COVID-19 scenario, to enable progress on skill development and employment among candidates. The ROI has been defined through 4 metrics, and the figure below details key changes across these metrics and how it would influence the ROI of changed models.



Candidates trained	Placement percentage	Average salary	Program cost
Reduced	Stabilized to the same as before	Marginally reduced	Short term increased investment for digital shift
Organizations have reduced the scale of operations due to limited digital mobilization success rate. Post onboarding, training partners have expressed risk with higher dropout rate among registered candidates.	Within the trained candidates, training organizations have reported similar placement rate among batches, although joining dates have been influenced by employer operations. WFH placements have been taken up immediately.	Training organizations have reported limited shift in salaries during placement stage, with shift in placement oriented towards type of employer rather than type of employment.	Organizations have taken up financial management measures to limit program costs during model changes. But, adoption of technology platforms, shift in content and curriculum have led to short term change to increased program costs.



Recommendations and Way Forward

Working on the study helped uncover the potential of an ROI model in helping identify the practices and models influencing the salary of candidates and also brought out the steps needed to enable cross learning in the ecosystem and measure the impact achieved.

1. Understand the Relevance of a Skill Training Model to Calculate ROI

One of the key findings of the study is the broad range of ROI for the current skill training programs – from 2 to 19 rupees for every rupee invested in skill development. And how the programs with the highest costs do not often result in the highest outcomes for the candidates. The study also highlights key factors that can have an impact on the ROI of the program, from how candidates are mobilized to how training duration is structured. Given the limited philanthropic capital in the sector, funders invested in skill development should ensure a focus on ROI by –

- Building ROI as a strong outcome metric for measuring effectiveness of programs
- Assessing key cost elements and their impact on outcomes for the candidates
- Investing in building partner capability in collecting and analyzing ROI data
- Wherever possible, design cohorts to identify the impact of particular levers on the trainee outcomes through the program.

Focusing on these aspects during the design of the program, and not at the time of evaluation, will be critical to achieve optimal outcomes.

2. Build a Culture of Data Discipline

One of the key challenges in measuring the ROI of programs today is the absence of good quality data. Of the 27 training partners who shared ROI data, 23% of the partners could not provide income data at a candidate level. 87% of them could not provide program costs staggered by location, that is, they had the same per candidate costs across Tier I, II and III centers. Capturing and storing data is poorly administered at the training partners' end. In addition, different partners had different ways of attributing costs across cost heads making comparability of costs highly difficult.

Hence, there is strong value in donors aligning on the infrastructure and processes for recording high quality data, without significant increase in the overheads for the partners. Existing technologies in the ecosystem allow for standardizing and collecting such data at the last mile.

3. Build for Agility within Programs

In-depth conversations with leadership and operations' teams of 41 training partners reveal that 89% of the organizations demonstrated agility during the COVID-19 pandemic by making shifts in their program and execution models. However, very few of the partners have focused strategies towards improving ROI or improving cost efficiencies in the program. The current cost optimization strategies are done without understanding the impact of the trainee outcomes. Hence a key focus should be building the capabilities of the partners to collect, analyze and optimize for ROI data, which will have long term benefits for funders.

4. Establish an Ongoing and Comprehensive Body of Evidence on ROI

This study is a **first-of-its-kind study** and it demonstrates the possibility of a return-on-investment analysis in skill development and how it helps us identify key levers to improve trainee outcomes. To be truly valuable to the ecosystem, it is important to build a comprehensive and ongoing ROI study that brings together diverse stakeholders from the skill development ecosystem in India. Some of the key steps include:

- **Multi-year study** over a period of 3-5 years that continuously validates key trends and helps account for external changes in the ecosystem. For instance, the study could highlight any sectoral shifts in ROI in terms of skill training programs over time.
- **A large network of funding and training partners:** Increasing the network of partners across, funding, training, policy partners are critical to build credibility.
- **An annual platform for dialogue** that brings together practitioners, funders and government to deliberate and make actionable decisions towards moving the needle.
- **Establishing pathways to enable partners** to adopt these recommendations and provide support infrastructure at scale to ensure long-term adoption.



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FOUNDATION

NASSCOM Foundation is a non-profit with a vision to empower lives through technology and work towards creating a truly inclusive India. NASSCOM Foundation, leveraging its unique position as the social arm of the industry body NASSCOM, aims to meet this 'demand' tapping the 'opportunity'. Foundation's work is just as expansive and evolutionary as the potential that technology and corporate India entail. Drawing strength from its strong association with its four major stakeholders – NASSCOM, NGOs, emerging social enterprises and Government, the Foundation is changing India bit by bit. The Foundation is leveraging the capabilities of IT-BPM member companies of NASSCOM along with emerging social enterprises to meet the technology needs of non-profits and underserved communities across India with continuous support from the Government.

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