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Transformation
Happens Here

Process excellence-based technology solutions: a game changer for the non-profit education sector

The size of the skilled workforce in India is only 2% of the total population. This proportion is extremely low when compared to that of countries such as China (47%), Japan (80%), and South Korea (96%). India will add 130 million people to the 20-49 age group over the next 15 years, while the population in that age group in developed countries will shrink by about 100 million.

To reap the benefits of the 'demographic dividend' - which refers to growth in an economy that results from the change in the age structure of a country's population - India must capitalize on its advantage of a young workforce by developing a skilled manpower base. Indeed, estimates are that by around 2025, 25% of the world's total workforce will be in India. So, India must create human capital by providing its young people with education, skilling, and employment opportunities.

Both commercial and non-profit organizations in India are stepping up their efforts to make this a reality. And both sectors are realizing not only that there's a need for different types of education and skilling for employment, but also that process excellence when embedded with technology plays a decisive role in optimizing the value realized by education and skills development.

Following are case studies about how teams of Genpact Social Impact Fellows created process excellence-based technology solutions for numerous education-focused non-profit organizations in India.

The Genpact Social Impact Fellowship (GSIF) is Genpact's flagship social transformation program in India. Established five years ago, the GSIF uses a rigorous application process to select a small group of the company's 95,000+ employees to help not-for-profits reengineer and reimagine their processes through a year-long fellowship.

Program fellows have worked on social projects in the fields of education, skills development, women empowerment, and employability. All GSIF projects have incorporated design thinking in some capacity, with various partners including Milaan, the Kaivalya Education Foundation, Saajha, Medha, Teach for India, and ETASHA Society.

The case studies below fall under three broad categories: teacher preparation and continuous professional development; classroom teaching, learning, and evaluation processes; and planning, administration, and management of the entire education system.

Teacher preparation and continuous professional development

CASE STUDY ———————————————

The Kaivalya Education Foundation

The Kaivalya Education Foundation (KEF) - a non-profit that "envisions creating public system change by fostering competent and passionate leaders who have the foresight and courage to create large-scale sustainable impact at grassroots" - is working to enhance India's education delivery system through district leadership strengthening, intensive community engagement, and robust governance mechanisms. In fact, KEF has partnered with the Genpact Center for Process Transformation (GCPT) to help state education departments achieve higher efficiency and better utilization of employees' time.

Through this partnership, KEF aspired to solve for prevalent challenges the education sector has been facing, such as inadequate training programs to address teachers' learning needs, suboptimal training content quality standards, and ineffective follow-up methods with a poorly defined mechanism to track the learning path.

The GSIF team members used the Lean Six Sigma (LSS) methodology – a method to improve performance by systematically removing waste and reducing variation – to redesign overall processes.

With LSS, the team created a detailed process map for the as-is processes, identified gaps, prioritized critical elements, established relevant wireframes, and built a web-based learning management system (LMS) that acts as a one-window solution to address the needs of all key stakeholders.

The new technology-based solution is enabling KEF to:

- Accurately identify and organize need-based trainings
- Provide teachers with a single portal to address all their learning needs, such as creating, viewing, and tracking their learning paths through simple dashboards and using the training calendar to collaborate with other teachers
- Enhance opportunities for teacher self-learning through anytime, anywhere learning
- Reduce non-value-add administrative time by ~30%
- Scale up as needed in the future

Key takeaways for all education-focused non-profit organizations

The professional development of teachers is essential for the development of students. Teacher preparation requires an understanding of teacher learnings and how to transform knowledge into practice for the benefit of students.

School administrations are now thinking about systematic approaches to enhance teacher learnings, from recruitment and preparedness all the way to various leadership opportunities.

One study, conducted by the New Teacher Project (TNTP) in 2015, found that even with large financial investments in teacher professional development, both teacher practice and student learning saw little change. But multiple other research studies have shown that a well-designed and effectively implemented teacher professional development program brings about desirable change in teaching principles and student learning outcomes (SLOs).

With the impact of COVID-19, in-person professional development training programs must be redesigned for remote delivery. Because remote training may be new to teachers, it's best to first introduce them to the idea through awareness sessions on relevant information and communications and education technology before conducting the virtual training sessions.

Classroom teaching, learning, and evaluation processes

CASE STUDY

Deepalaya

Deepalaya is a 40-year-old, Delhi-based non-profit that fights illiteracy. The organization promotes education among the underprivileged and helps them enroll at government schools through donor-funded projects.

Due to the organization's lack of a measurement system, it was facing a major challenge in justifying the impact it generated to its donors.

The GSIF team used the business process management system (BPMS) methodology – a process management framework that's coupled with technology enablers, operational risk assessments, and measurement system tools to ensure repeatable and reliable processes – to understand the best possible technology solution on which an automated measurement system could be built for Deepalaya.

The GSIF team:

- Created a customer output process input supplier (COPIS) tool to understand Deepalaya's processes and identify their corresponding input, process, and output metrics
- Adopted a where, when, what, who, how – or 4W1H – methodology to bake in any delay in data collection
- Used a failure mode effects analysis (FMEA) to assess the potential failure modes and arrive at a mitigation plan

- Conducted a detailed diagnosis to arrive at the right technology solution to address Deepalaya's lack of project database and remote catchment areas with low internet connectivity, its limited organizational budget, and its low technology prowess
- Decided that a Microsoft Excel-based management information system was the best solution and built one using advanced features such as slicers to create the same look and feel of Tableau/Spotfire, along with similar built-in features to slice and dice for deep drill down

This new system is helping Deepalaya prove to donors the value it's generating through:

- A database with high-quality data that enables real-time access to important insights such as SLO scores across schools and learning centers
- Automation of repeated manual tasks, which creates more time for teachers and community mobilizers to engage in more important activities
- Identification of areas of improvement and corrective actions to improve student attendance from 69% to 80%, and SLOs from 43% to 52% by fiscal year 2022-23

Key takeaways for all education-focused non-profit organizations in India

Within government schools in India, a key concern is to improve the SLOs in age-appropriate classes. And the 2009 Right to Education Act mandates free and compulsory education of children from 6-14 years old. Though the schools can't deny admission to children, the students often struggle to keep up with studies in age-appropriate classes. To overcome this, education-focused non-profits are trying to improve the students' competency levels.

For example, organizations such as Deepalaya support the educational institutions' goal to ensure 'Joyful Teaching and Child-Friendly Learning' with a technological underpinning. Although the non-profits are providing education through an activity-based learning methodology, they in many cases lack the capacity to measure and report the improved SLO results. Unfortunately, in the majority of cases, government educational institutions lack the infrastructure to support the installation of digital tools.

To solve this, the GSIF has been working with its partner non-profits on the customized automation of their existing education-program-related management information systems to track the progress of each primary and secondary school student. This is enabling the quick and easy retrieval of desired data so that related insights can be shared with interested donors.

Planning, administration, and management of the entire education system

The Kaivalya Education Foundation

Many types of employees, not just teachers, work to make educational institutions function smoothly. Their work includes running schools, maintaining school infrastructure, and conducting human resource management.

Through primary research with multiple state education departments, KEF found that officials spent a great deal of time resolving issues within the department. These issues ranged from school management to medical reimbursements to litigation. Most of the cases filed against the department were by its own employees. And this meant that during a court hearing, both the employees and officials had to be present, resulting in major time loss.

Concerned Area	Challenge	Solution	Impact
Litigation	■ Multiple cases against the department in which courts have mandated the presence of its officers ■ Significant time spent on filing affidavits and counter-affidavits. ■ Overall cumbersome process of file movement and case tracking due to recording of data at multiple levels	■ KEF designed an online litigation management system to help officials track the progress of cases with a single dashboard ■ It automatically raises tickets for the concerned officers, appoints an officer to cases based on availability, uploads relevant facts, and helps to upload affidavits	
Leave Management System	■ Physical record keeping was time-consuming ■ In case of leave or No Objection Certificate (NOC) requests for international travel, the redressal was always delayed ■ Getting medical bills reimbursed was also a major time loss for teachers and officials ■ Bottlenecking of the physical files at each level of approval caused these delays	■ KEF rolled out a platform for online leave application and approval ■ Now, applicants can apply for leaves, urgent leaves, and NOCs online, which automatically progress through various levels of approval ■ The teacher gets to view the current status of the leave application, including reasons for rejections	■ Transition to online portal led to streamlining of processes ■ Huge reduction in time spent on non-value-add activities by teachers and administrative staff ■ Access to dashboards and real-time progress ■ Identification of bottlenecks aided strategy intervention
School Management System	■ The education department of the states' officials are required to observe their schools' academics and infrastructure ■ These observations had to be manually recorded on three different forms while the official was on school premises ■ The forms were then uploaded online on a weekend, consuming time even on non-workdays ■ Despite the tedious process, there was no way to track whether any action was taken on the points cited during observation	■ Observation forms moved online, and frequently requested information was pre-populated ■ Geofencing in each school's location ensured that the forms were filled out only when the observer was in the school ■ Student performance was captured through random questions	

These interventions reduced time spent on non-teaching activities so that teachers could spend more time with students.

Skilling for employment

Creating job-ready manpower

NASSCOM's IT-ITeS Sector Skills Council

NASSCOM's IT-ITeS Sector Skills Council (SSC) – whose vision is, in part, "to create a sustainable industry-ready talent pipeline by scaling quality capacity and enhance employability at all levels … leveraging technology and our experience in large-scale skill development in a sustainable manner across skill sectors" – has taken a leading step toward enabling today's workforce by imparting the skills required for IT and IT-enabled services (ITeS)-related jobs.

One major need highlighted by the IT-ITeS industry is the general unavailability of skilled talent. This is due to multiple factors, including workers' inability to gain higher education, lack of foundational skills, the unavailability of skilled trainers, and limited exposure to practical learning. To bridge the skills gap, NASSCOM's IT-ITeS SSC runs several initiatives, such an apprenticeship program and its FutureSkills program:

- The Apprentices Act, which was passed in 1961, stated that all IT-ITeS establishments should hire 2.5-15% apprentices of their previous year's headcount. NASSCOM's apprenticeship team works closely with the industry to increase IT-ITeS apprentice enrollment

- The FutureSkills initiative is an industry-driven learning ecosystem to get India to build skills and become the global hub for talent in the digital economy

Though these are highly valuable programs, the IT-ITeS SSC needed a solution for two different issues:

1. Low apprenticeship enrollments and help with implementing a tracking and reporting tool

2. A better understanding of the requirements of the science, technology, engineering, and mathematics (STEM) education ecosystem to design a solution for faculty and students to become skilled in new technologies

The GSIF team addressed these needs by conducting extensive pan-Indian research, studying the current process and gap areas, and using various LSS and design thinking tools, such as the ProDG framework, fishbone analysis, ideation workouts, and FMEA.

For the apprenticeship program, the GSIF team members put together a detailed requirement and evaluation framework to customize and implement a robust customer relationship management (CRM) tool. This enabled a structured, efficient, and automated program-monitoring mechanism to minimize manual interventions across lead management, contact management, and marketing, and is providing the SSC with deeper analytics and insights.

For the FutureSkills initiative, the GSIF team members proposed an Industry Connect Program to bring industry and academia closer together by using digital tools to deliver blended courses, webinars, mentorship sessions, and virtual internships for students and faculties. Its entire delivery model is based on the FutureSkills platform, on which the faculty can easily create supplemental learning programs for students

Due to these solutions:

- The Apprenticeship team is aiming to engage 100,000 apprentices in the IT-ITeS industry by 2023

- The FutureSkills team will be able to skill 100,000 engineering graduates by 2023

REACHA

REACHA is a non-profit organization in Baramulla, Kashmir, that is working on community involvement with the support of the Indian Army by engaging youth in various training programs including technical, hospitality, fashion design, and English language classes.

To help the youth in Kashmir focus on life skills and shield them from the influence of anti-nationals, REACHA is leveraging third-party software, such as Kojo, to introduce them to basic logic-based coding and the computer-aided design of handbags and other creative items. But it was finding it difficult to measure the impact of its skills development program.

The GSIF team members used LSS and a design thinking approach to help implement an advanced Excel dashboard based on slicers to measure outcomes, factoring in Kashmir's lack of/limited 2G internet connectivity. The GSIF team members also designed a qualitative tool that assesses resulting behavioral change.

REACHA is now able to measure the success of its programs and take necessary corrective actions backed by data-based findings. And the new behavioral assessment tool revealed that the aspirations of the students increased by 130% because they associate with REACHA's skills development program for a period of eight months or more

The Drishtee Foundation

The Drishtee Foundation's Swavlamban program empowers rural community groups to develop into self-reliant, sustainable, and interdependent enterprises. It works within a community-led business and supply chain ecosystem in the field of textile and farm products. It has developed rural and urban linkage through a value chain approach for marketing indigenous products through Miri, an e-commerce platform.

It faced multiple supply chain process challenges including:

- It was struggling to link producers (supply) to consumers (demand) through one platform

- It lacked documented processes, leading to multiple iterations between Drishtee and its technology vendor
- The mobile apps built before the related subprocesses were identified did not meet their intended purposes. And it was exceedingly difficult to integrate all the apps into one comprehensive app

To address these challenges, the GSIF team developed process maps, conducted design thinking workshops to identify improvement areas, and designed a supply chain model based on input from key stakeholders.

The new and comprehensive marketplace app is expected to bring all its users onto one platform and improve buyer and seller experiences, leading to:

- An increase in the percentage of marketplace users
- An increase in producers' income and customer base

Key takeaways for all education-focused non-profit organizations in India

A sound educational foundation alone does not meet the demands put forth by today's employers. Jobs have become highly specialized, and job seekers must have specialized skills to guarantee employability.

India is one of the youngest nations in the world, with a large section of its youth of working age. But unemployment among this group is rampant.

Skill India is an initiative launched by the government in 2015 to train more than 40 crore Indians in different industry-related jobs. Non-profits support this initiative and believe there is a huge skills gap that must be addressed through training programs, especially in industry- or domain-specific training

Conclusion

Though India is favorably placed to capitalize on its 'demographic dividend', the nation must mobilize interventions on two fronts: in education, to build a firm foundation for its students, and in skill development, to equip its youth with job-ready skills.

In conjunction with the government's efforts, various non-profit organizations are driving transformation in the educational and the skilling sector. But they're realizing that traditional approaches no longer work. As Bernd Schreiber, Willem Romanus, and Yong Lee stated in 2017, "Organizations that simply introduce new technology systems without considering the value stream holistically run the risk of failure."

Accordingly, what non-profit organizations need are optimized processes and the use of technology as an enabler.

Embracing the LSS framework helps organizations monitor, control, and predict their process, and therefore its outcomes. Technology interventions help to replace many manual touchpoints and do away with errors caused by human bias. Technology implementation projects that are firmly grounded in process excellence principles result in the faster and error-free execution of teacher professional development programs, which in turn result in holistic student development.

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