WORKFORCE OBSOLESCENCE BY MASS SCALE DIGITAL RESKILLING

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Abstract: This case study aims to demonstrate the HR challenge faced by companies in the Indian IT sector, due to the advent of disruptive technologies in digital space. It portrays the journey of TWIC Technologies (a fictitious typical Indian IT company), in how it comprehends the problem and charts out the approach to overcome the varied challenges of scale, geographical spread, time to deploy, heterogeneity of technologies and diversity of workforce. Some of the approaches adopted by TWIC have been discussed in the last section of the case study. The journey begins around 2014 and it continues even today as TWIC weaves reskilling as part of its business as usual state.

Keywords: reskilling, digital, workforce diversity, induction, on-job learning, competency, knowledge, role, KSA, expertise, scale, line of sight, obsolescence

The Context

The Indian IT industry is USD 154 billion strong and is the largest private sector employer in the country, employing over 3.5 million direct employees in FY 15. Large part of this workforce (75%) is in the junior and middle management levels with an average age of 28 yrs. The industry has created enormous employment opportunities for people living in the non-metro cities, with over 55% employees coming from Tier –II/III/IV cities. This single-handedly creates wealth and opportunity across the length and breadth of the country. It also means that the workforce is extremely diverse in their demographic profile, socio-economic backgrounds, language, gender, religion etc.[1]. (NASSCOM, 2015)

Despite these impressive numbers only 1.5 lakh employees in the industry can be considered digitally-skilled! In order to drive home the point, Mr. R Chandrashekhar – President Nasscom in his welcome address at the 14th edition of NASSCOM HR summit in July 2017 says:

"Re-skill is the one mantra that can prepare the $154-billion-strong information technology industry for the challenging future that lies ahead. The industry is marching on to become $350 billion by 2025, and to reach that aspirational goal re-skilling employee is critical. The IT industry is continuously pounded by newer and powerful technologies like automation and by political and economic upheavals globally. It has to create a niche for itself and once

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[1] NASSCOM. (2015). *HR in the DIgital Age - Annual HR surevy 2015.* New Delhi: Nasscom.

again repeat the cycle of learning, unlearning and relearning. The industry needs to re-skill nearly 1.5 million people.[2]" (Nasscom, 2017)

While certain traditional skills like Java, Web Development and Database Management remain high in demand, requirement of new digital skills such as mobile technologies, cloud, advanced big data analytics and cyber security is increasing. The next USD 100 billion for the industry will come from such new technologies.

About TWIC Technologies Ltd.

TWIC Technologies Ltd., a global information technology company, has enjoyed major growth years marked by a constantly increasing demand for a technology-enabled workforce. Boasting most of the Fortune 500 companies as its customers and 200,000+ employees, TWIC was on the high growth trajectory of posting 20% plus year-on-year revenue growth. Over the last couple of decades TWIC had enjoyed a sustained positioning as an industry leader through its commitment to innovation and high-quality execution.

Due to this spurt in growth TWIC was a major recruiter in engineering colleges, often adding upwards of 30,000 – 40,000 new resources every year. The average age in the organization was below 30yrs, GenY dominating the employee profile. TWIC also enjoyed a great deal of employee loyalty. Attrition hovered around a healthy 10% (with minor variations y-o-y). Its senior management consisted of a stable layer of home-grown leaders having grown with the business of the company.

TWIC had proven wrong the doomsayers who had predicted the end of the company's good fortunes post Y2K era. It had not only successfully moved into the age of e-business and web technologies but had done it with a vengeance by doubling its revenues almost every 5 years. Of course, this being a linear model had also meant an increase in workforce at the same pace.

Now TWIC was also at the same juncture as the IT industry in general with a large legacy technology trained workforce, while its customers were moving and investing in the digital direction!

Overview Background

TWIC Technologies Ltd. (TWIC) along with the rest of the IT industry has been facing economic skill obsolescence at an accelerating pace. While a 3 - 5 year technology refresh was normally advised by TWIC to its customers for their physical technology infrastructures, TWIC was facing a massive 'WORKFORCE REFRESH' challenge internally especially at the Learning & Development functions.

12[th]April 2015, 7pm: The mood in the conference room was particularly sombre! The press conference announcing Q4 and annual results had been barely cordial with the incessant questioning of media and the analysts over declining growth rates and margin pressures. CEO, TWIC, was voicing his concerns over the urgent and immediate need of the company to move into new growth areas led by digitalisation. Small mom-and-pop shop companies

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[2] Nasscom, R. C.–P. (2017, July). NASSCOM HR SUMMIT. *Welcome Address.*

armed with their digitally savvy workforce at the forefront were nibbling at the digital opportunity. TWIC was still looked upon as a legacy technologies company with an older workforce. CEO had called Mark (Global HR head) with a clear ask *'Next year I want to announce specific initiatives backed by impressive numbers to show significant progress made by TWIC in creating a digital workforce'.*

With this background, Mark decided to go headlong and adopt a brainstorming and focus group discussion approach with his team. He articulated the following objectives for the group:

- Objective 1: Understand and articulate the workforce re-skilling problem statement and its various dimensions
- Objective 2: Set out the approach for addressing the identified dimensions
- Objective 3: Onboard a dedicated task force with a mandate to run a time-bound program with clearly defined KRAs.

In TWIC, no one had done it before, there was no precedence to this activity elsewhere, and hence the questions had to be framed internally and the answers also found internally. While the entire industry was facing the same scenario, it could well be a differentiating factor between TWIC and its competitors in years to come. Hence industry collaboration had to be judiciously used!

The Kick-off Meeting – Articulating the Challenge

13th April 2015, 9am: Very next morning Mark called for a meeting of Savita (VP L&D), Ravi (VP- Recruitment) & Indira (VP Strategic Initiatives). Key leadership team members were also asked to report for the meeting.

After exchanging brief pleasantries, Mark drove straight to the reason for calling this sudden meeting,

"Folks, we have a cause for concern! Our CEO was very upset after the press conference yesterday and has expressed his desire to move our company into new digital areas in a fast-forward mode. He has said and I quote 'Next year I want to announce specific initiatives backed by impressive numbers to show significant progress made by TWIC in creating a digital workforce'. So let's roll-up our sleeves and get cracking on measuring upto our CEO's expectations."

Let me kick-start the session by articulating the challenge & hence the objective as I understand it:

"International Data Corporation (IDC) forecasts worldwide spending on digital transformation (DX) technologies to be more than $1.2 trillion in 2017 [3](IDC, 2017). *TWIC wants to be part of this growth story and for that we must get our workforce digitally equipped. We have 2 options – 1. Recruitment of lateral talent and/or 2. Reskilling the existing workforce. So, our objective should be to have X% digitally skilled workforce by next year with full coverage targeted in 2 years thereafter."*

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[3] IDC. (2017, February). *IDC Forecasts $1.2 Trillion in Worldwide Spending on Digital Transformation Technologies in 2017.* Retrieved from www.idc.com: http://www.idc.com/getdoc.jsp?

Ravi (VP-Recruitment) informed the group that TWIC was facing immense competition in recruitment both at campus and also for lateral hires. Talent hunt is shifting from 'qualification' to 'skill-based' and hiring to 'knowledge & expertise based' from 'age & experience based''. Given the fact that industry wide only about 1.5 lakh people are expected to be digitally trained currently, finding the right resource at the right cost is proving to be an uphill task even for the few JDs (job descriptions) received by the recruitment team from projects.

Attrition levels have increased by 300bps over the last year indicating a leaky pipeline. Given this fact, he informed that good digital resources are in fact moving to niche players and start-ups where they find more challenging work and an informal work environment.

"In my view, recruitment of lateral talent by itself will not address the numbers we are targeting."
That said, TWIC was left with only one option, that of reskilling its current & incoming workforce on digital.

Reskilling at TWIC

Thus Bbjective 1, 'Understand & articulate the workforce re-skilling problem statement and its various dimensions' was broken-down into the following dimensions:

WHAT
What is the training that needs to be imparted? TWIC had no idea what 'digital' should actually mean in this context. It was a loosely used term for all new-age technologies in various stages of initiation. At a first level TWIC needed to create its own specific definition of 'digital' which would guide this entire initiative. There were service dimensions of design and architecture, planning and management, development and testing new age applications also to be considered while defining the scope of digital.

WHO
Who are the people who will be trained and by whom? The scale was daunting! While 80% of TWIC's workforce was <30yrs of age, the balance 20% also meant a staggering 40,000 - 50,000 people. The target segment was a diverse group of people in terms of age, role, current profile & experience. The re-skill program had to suitably address all these sub-segments. The new recruits were a completely different ball-game all together.

WHEN
When will the employees get trained? TWIC's utilisation levels were about 75%, which meant on an average 75% employees were engaged in full-time projects across over 200 offices in 50+ countries. Many of these FTEs were at client site in time & material engagements. This gave rise to twin challenges of reduced time availability for training and geographically spread places for conducting the training. To top it all, this team had less than 1 year from concept to output to meet CEO's expectations.

HOW
This was the final and most critical dimension of the challenge - program execution. To achieve flawless program execution, the team had to answer the following questions:
- How will content be created and disseminated?
- How will alignment of all stakeholders be obtained?

- How will the final number delivery be ensured?
- How will relevance of content be ensured over the time frame?

Savita suggested the use of Behavioural Event Interviewing (BEI) methodology to come up with the desired KSA's (knowledge skill ability) for each of the roles and digital areas. Mark countered it saying:

"In today's busy, lean organizations, few interviewers have the time or resources for the level of individual analysis of each candidate. Need of the hour is an agile approach, which can be refined further as we move forward in the program."

Learning & Development @ TWIC

Learning & Development at TWIC broadly encompassed 2 threads:
1. Induction Program (IP) – Created for new-recruits with the express aim of making them job-ready. This program typically ran for 2-3 months covering generic technologies like Cobol, Dot.net, Java, Oracle etc.
2. On-job Learning Program (OLP) –Comprising web-based training & classroom trainings for specific areas in technical, business, domain and soft skills. These programs were primarily voluntary in nature, with few mandatory courses on safety, security etc.

In addition to the above, several on-demand e-learning options were available to employees including e-books, brain bench tests etc. Clearly in recent times, the L&D department had undertaken several initiatives in a bid to create a learning environment in the organisation.

However, it suffered from a basic flaw: voluntary skill-upgrade. Pull methodology of associate initiated training, relies primarily on the self-motivation levels of the associate and may not be aligned to any specific organisation role or goal.

Also, for content, TWIC had no strategy to address the changing technology demand from its ecosystem. Whether it failed to recognise the early signs of the changing winds or it got complacent in a booming business, the net result was now a question of survival.

Birth of the Go Digital Program (GDP)

With the dimensions successfully outlined, Savita and Indira moved to Objective 2: Set out the approach for addressing the dimensions. They conducted various focus group discussions with multiple stakeholders to chart out the contours of GDP. Senior representatives from industry domain units, digital technology units, product alliances and service functions like testing, infrastructure etc. were roped in for these discussions.

The goal was to develop an actionable blueprint of content, components and processes that would empower TWIC's employees to develop their knowledge, skills, abilities, and attitudes in pre-identified areas aligned to the objectives of the organisation. Salient features of the blueprint were defined as follows:

1. **Scope of GDP –** The team decided to organise GDP along 3-dimensions, that of domain, technology & service
   - Industry (domain) – BFSI, Retail, Healthcare, Manufacturing and Travel.

- Technology – Big data, analytics, public/private cloud, Internet of Things (IoT), artificial intelligence and mobility
- Service offerings - consulting, development, testing, security, visualisation

2. **Carpet bombing –** Coverage was chosen over depth as the Phase One of GDP. The team proposed an ambitious target of 33% of organisation workforce to be digitally trained at the base competency level in Year1! A cross-functional task force was proposed to monitor and report progress on the program coverage metrics to the senior management.

3. **KSA approach –** The existing KSA framework with 5-level expertise scale were used as a basis to define 1200+ new courses mapped to 100+ new competencies tagged to digital as an overarching competency

KSA Approach for GDP
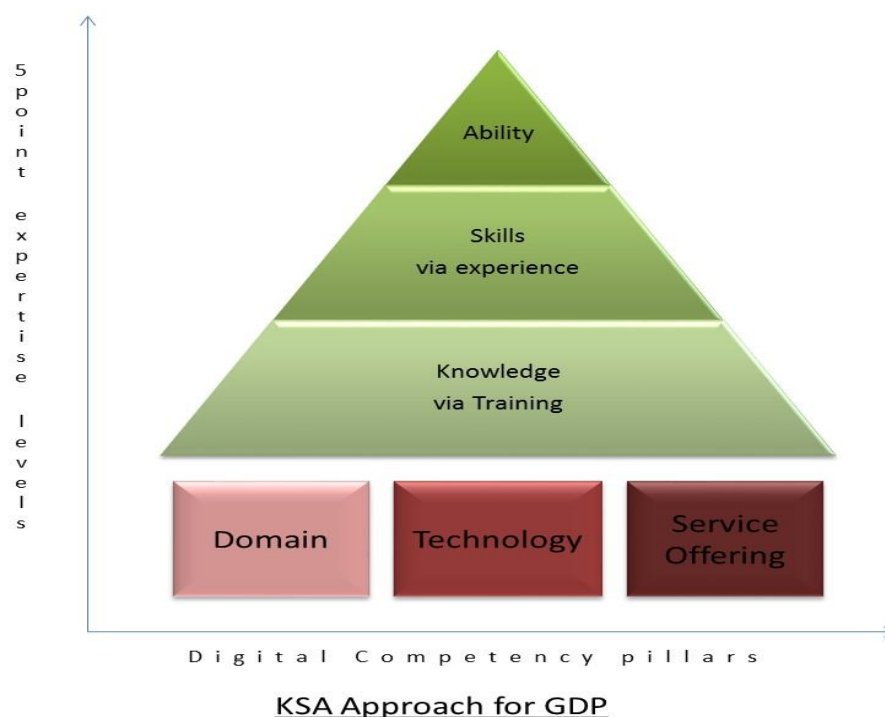
4. **Digital to promote digital learning –** It was decided to migrate to mobile platforms for content delivery, use social & gamification techniques to enhance learning experience and provide virtual labs for practical training. New mantra was termed '3A – Anyone, Anytime, Any device'. While TWIC had the internal capability to build such a training infrastructure, it was decided to collaborate with external parties like solution providers, educational institutes and content developers to fast track the implementation process.

5. **Employee Line of Sight –** Program alignment with employee was critical for the success of the program. This was especially true since employees would have to go beyond their current comfort zone to unlearn old skills and learn new skills. Similarly, on the other side, the program had to eventually align with the overall organisational goals of revenue generation and business growth. Thus an 'employee line of sight' was developed mapping the tasks to competencies to job roles all the way up to organisational performance.

Training

Certifications

Experience

TASKS

Competency

Job
roles

Performance

Employee Line of Sight
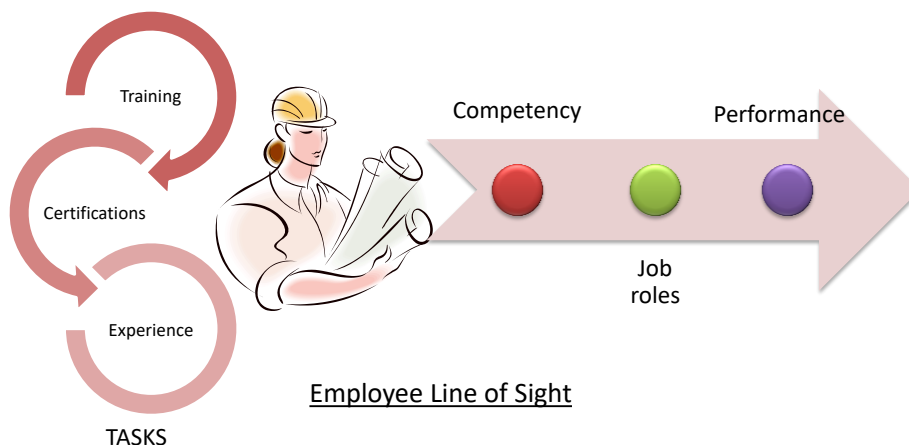
Executing 'The Program'

Two years later, the GDP program boasts 90% coverage in terms of bringing up the base level of the workforce to a basic minimum defined. It succeeded in creating a digitally enabled workforce, capable of engaging in a meaningful discussion with its customers in the digital space. This changed the perception of the customers towards TWIC, wherein they would look at TWIC primarily for older technologies and management of legacy systems to now including TWIC in the digital discussions.

Built on the KSA framework, there are doubts on the efficacy of the framework in competency demonstration. Competency demonstration is the analysis of critical behaviours that describe what associates actually do (behaviour and results) rather than what they can do (knowledge, skills, and abilities).

While knowledge focuses on the actual understanding of particular concepts, it is theoretical and not practical. An individual may have an understanding or textbook knowledge of a topic or tool, but have no experience attempting to apply it or to leverage it as part of his or her job activities.

The areas of knowledge and skills are best developed through training activities that incorporate both theoretical learning plus hands on application of the key concepts and tools. The GDP program in Phase One focussed on building knowledge base in all associates. Strengthening natural abilities is primarily a coaching challenge, where observation, feedback and improvement are all applied to particular behaviours. Out of the large pool of associates having the knowledge and skills, TWIC will need to develop a long-term approach of discerning those with high ability to perform in this space. These high potential employees, can then be given targeted intervention in terms of coaching & mentoring to place them on high visibility leadership roles.

Discussion & Summary

This case study aims to demonstrate the large-scale re-skilling challenge faced by companies in the Indian IT sector, due to the advent of disruptive technologies in digital space. It portrays the journey of TWIC Technologies (a fictitious typical Indian IT company), in how

it comprehends the problem and charts out the approach to overcome the challenges of tremendous scale, geographical spread, short time to deploy, heterogeneity of technologies and diversity of workforce.

While TWIC did successfully overcome its initial task of delivering the numbers required in portraying to the industry that it has re-skilled its entire workforce within a short span of 2 years since the inception of the GDP program. TWIC still has to undertake a comprehensive review of the effectiveness of the program with expanded KRAs linked to lag indicators like actual revenue, business contribution and brand perception in the digital space.

As we know the definition of what are digital technologies itself is a moving goalpost with a high degree of specialisation & hence obsolescence. Hence it is imperative that TWIC constantly benchmarks the program externally with the market and upgrades its content and composition accordingly.

Last but not the least, TWIC has to quickly devise additional L&D components to move the employees up the digital competency ladder for them to be placed in relevant digital roles in customer organisations.

The final long-term challenge of the L&D function is how to make this program part of BAU where technology components are changing faster than the seasons!

Conclusion

TWIC (and the Indian IT industry in general) has to its credit demonstrated once again it's agility and fastidiousness in adopting such large-scale changes to its core business and business models. While the journey on the road to digital has just begun, it is inspiring to note that TWIC is on course to not only stay relevant but also post growth in business.

Impact of digital technologies will not be limited to the IT industry alone. Artificial intelligence, robots and other autonomous systems as impacting several other industries at their core. Mass-scale reskilling is soon going to become a norm and these industries would fair better to learn from the experience of companies like TWIC in the Indian IT industry.

References

European Centre for the Development of Vocational Training. (2012, July). Preventing skill obsolescence. *Briefing Note*. Greece: European Centre for the Development of Vocational Training.

Gartner Inc. (2014, October). *Gartner Identifies the Top 10 Strategic Technology Trends for 2015*. Retrieved from www.gartner.com: http://www.gartner.com/newsroom/id/2867917

IDC. (2017, February). *IDC Forecasts $1.2 Trillion in Worldwide Spending on Digital Transformation Technologies in 2017* . Retrieved from www.idc.com: http://www.idc.com/getdoc.jsp?containerId=prUS42327517

NASSCOM. (2015). *HR in the DIgital Age - Annual HR surevy 2015*. New Delhi: Nasscom.

Nasscom Sector Skill Council. (2017, August). *Bridging the Talent Demand Supply Gap – Maximizing Skilling Opportunities*. Retrieved from www.sscnasscom.com: http://www.sscnasscom.com/ssc-projects/research-and-reports/demand-supply-analysis/

Nasscom, R. C.–P. (2017, July). NASSCOM HR SUMMIT. *Welcome Address*.