From the Editorial desk

Dear Readers,

It gives us immense pleasure to release this edition of **Prakalp**.

This year happens to be the 50th year of PMI's existence and its commitment to Project Management, and what a coincidence, it also happens to be the 50th anniversary of Man landing on the Moon. To spice it up India launched the Chandrayaan-2 and became part of the elite few nations to have launched a mission to the moon.

The 50th year celebration is to take place at the PMI Head Quarters in Pennsylvania on 3rd October 2019. Please visit https://www.pmi.org/anniversary for additional information.

To commemorate the 50th anniversary celebration, PMI has instituted the 50 Years
=> 50,000 hours! PMI is building on half a century of project management achievements by pledging 50,000 hours of outreach in support of the United Nations' 17 Sustainable Development Goals. Please join Project Leaders from around the world in making a difference and pledge your time through the Global Celebration of Service.
(A list of the 17 Sustainable Development Goals is appended for better understanding).

PMI is looking forward to clock at least 1000 hours from each chapter across the globe before September 2019.

Towards this endeavour, PMI Mumbai Chapter took initiatives and participated in the
Tree Plantation Drive hosted by the Utkarsha Goregoan Sanstha, the Aarey Walkers Association, and the Beach Cleaning activity. We are happy to inform you that as of July 28 2019 we have clocked a total of 1000 hours towards this cause.

We have planned lots of exciting programme to be rolled out during the course of the year. We are scheduling a one-day PM Conclave Event, sometime either towards the end of 2019, or in the beginning of 2020; we will be announcing a Theme competition shortly where all members should participate and win exciting prizes; details will be shared in the coming months. Volunteers desirous of playing key roles in the PMO for the Conclave are welcome. Please reach out to Raphael DAVID on 9769899941 or email at marketing@pmimumbaichapter.org

We hope you will find the 2 Technical articles that was shortlisted during our last conclave, very interesting and knowledge enhancing.

Those desirous of publishing their article in Prakalp, please send their articles to marketing@pmimumbaichapter.org. This is a good platform not only to earn PDUs but also reach out to the community at large.

The PMI India National Conference 2019 is scheduled to be held in Hyderabad, Telangana on Sep 20th and 21st 2019.
Cheers!

Raphael **DAVID,** PMP
Vice President- Marketing
August 1, 2019

From the President's desk:

Fellow Project Professionals,

Greetings of the day!

Prakalp has been a communicating channel from PMI Mumbai Chapter to you all for contemporary projects practices and chapter activities.

Project Management Institute, Mumbai Chapter has made great strides in terms not only in regular activities but also meeting 50th Year of PMI celebrations. Apart from regular monthly activities, your chapter is aligned with United Nation's social sustainable global goals to meet 1000 hours of Social Services as a target set by PMI.

With the awareness of global standardised project management practices, specifically adoption of Agile Project Management, the chapter has designed and developed PMI–ACP (Agile Certified Practitioner) certification training program and has already conducted three batches.

Your chapter has taken one step forward with PMI EF (PMI Education Foundation) for seeding roots of Project Management and training students at a young age.

As a project professional who aspire for case studies, your chapter conducted a study tour of Project closure at Statue of Unity in Gujarat (a tribute to Sardar Vallabhbhai Patel). It was an exercise in learning and appreciation for those who took the tour.

A 'Green World' is the need of the hour for our planet today. With global rise in temperature and increasing level of carbon dioxide in air, tree plantation on multiple levels and scales is socially relevant and necessary. We in Mumbai chapter did our bit and there is write-up of the same in this issue.

I convey my sincere thanks to Project officers of Statue of Unity on occasion of Project closure status day. Also, the chapter is thankful to organisers of "Utkarsh", "Mega Tree Plantation" and "Aarey Walkers Club" for providing opportunity to join hands in tree plantation program.

Bharat C Bhagat PMP
President
PMI Mumbai Chapter,
1st August, 2019.

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Technical Article:1

FUTURE OF PROJECT MANAGEMENT IN NEW DIGITAL ERA

Abstract:

Digital evolution is taking the world in storm and it is impacting every phase of our life be it business, education, healthcare, shopping etc. Project management is no exception to it. With the advent of new technologies and tools powered by Artificial Intelligence (AI), Robotic Process Automation (RPA), Machine learning (ML) and Cloud Computing the whole gamut of project management is undergoing drastic changes and it is not going to hold the same way the project management used to be carried out for the past many years or so. These intelligent tools have already started impacting by touching upon the nine project knowledge areas of project management as well as all three areas of PMI's Talent Triangle.

Though some form of AI usage in project management dates back as far as 1987, it is only recent times that it is really taking off. Various AI tools as basic as Integration & Automation tool, Chatbot assistants, Machine Learning based project management and Autonomous Project management tools are empowering project managers to deliver the projects precisely within three boundaries of project constraints and thereby freeing up the project managers for concentrating their tasks on more business critical functions. Project management has once again become very interesting proposition as we go through industrial revolution 4.0.

This article will further enunciate on how Artificial Intelligence is set to change project management practice, what the organizations should do for effective implementation of AI based project management, and how project managers can prepare themselves to stay relevant in a fully integrated, automated and predictive project management world.

Introduction:

Over the years project management has undergone many changes – more solid processes, tools & techniques, organizational knowledge, expert judgement, better way of risk mitigation and issue management have been deployed in order to deliver the projects successfully within the triple constraint. Yet, according to PwC's most recent Global PPM survey programme failures and overruns are most commonly due to poor estimates, changes in scope and poorly defined goals. With the help of Artificial Intelligence tool precise estimation, better project scheduling, risk management, resource deployment can be done. Now is the time for the project management professionals to start using big data and Artificial Intelligence (AI) to improve outcomes and increase the likelihood that projects will be successful.

What's AI?

"The designing and building of intelligent agents that receive percepts from the environment and take actions that maximize its chance of successfully achieving its goals"

- Artificial Intelligence: A Modern Approach. Stuart Russell and Peter Norvig (Pearson, 2009)

In a broader term Artificial Intelligence is the ability of the computer to perform certain human like intelligent tasks that will encompass following activities.

- Learning and adaption
- Logical deductions and inference

- Ability to understand natural language/ speech
- Ability to make decisions on
  - ✓ Past Experience
  - ✓ Insufficient Information
  - ✓ Conflicting Information

Artificial Intelligence methods can be deployed effectively to use the information gathered through project management processes and create additional knowledge by mining that data to identify relationships and trends. Cutting out excessive information noise and having the right knowledge at the finger tips will enable the project managers to have effective decision making.

One of the main benefits of Artificial Intelligence technology is the capacity to analyze large amounts of data and to take actions based on patterns of data matched to historical precedent. This will also free up the project manager from doing daily mundane tasks and will enable him to focus more on executing complex tasks, stakeholder management, team management etc.

IBM's Cognitive computing system IBM Watson is based on Machine learning and natural language processing both with structured and unstructured data is being used by consulting giant Cap Gemini in improving the efficiency of resource deployment in projects by allocating the right resource to the project. Similarly, IBM is also deploying IBM Watson for selection of resources in the project based on the skill, availability and past performance of the resources in the projects. Infosys is also using artificial intelligence tool called Mana which collects and aggregates organizational data from people, processes and legacy systems into a self-learning knowledge base.

Another consulting organization uses machine learning method in order to predict weeks in advance where a problem is likely to occur in the course of project management.

There is no doubt the future of project management will be heavily influenced by technological breakthroughs and AI will change the course of how project management tasks are delivered and controlled in the future. Artificial Intelligence will evolve from simple task automation to predictive project analytics, advice and actions. However, there is something AI cannot do – be human.

Artificial Intelligence will assist the project manager or perform the following tasks in near future.

- Assisting in defining the scope of the project
- Integration with other business areas
- Analyzing and predicting risks
- Developing project schedules, timelines, and budgets
- Assigning tasks to the appropriate resources
- Implementing software and other technical components
- Assessing project outcomes
- Track issues

Artificial Intelligence and Project Management:

Today the term Artificial Intelligence is being used interchangeably with "Automation". Artificial Intelligence encompasses areas ranging from cognitive computing, machine learning to natural language processing. They are based on the ideas that they will be able to learn and improve upon themselves on their own instead of feeding upon some pre-programmed codes to them. Whereas automation is a controlled process that follows pre-programmed logic and rules. But, Artificial Intelligence is designed to simulate intelligent and even human thinking.

Integration & Automation is considered first phase in the evolution of AI in project management. This first phase will be followed by Chatbot project assistants, machine learning based project management and finally autonomous project management.

This whole gamut of different AI tools for project management is being covered within the spectrum of Narrow AI (basis/ role tasks) to Deep AI (continually learning/ aware) except Autonomous Project management which requires much more intelligence in it. The following diagram shows the entire spectrum of project management tool in AI.

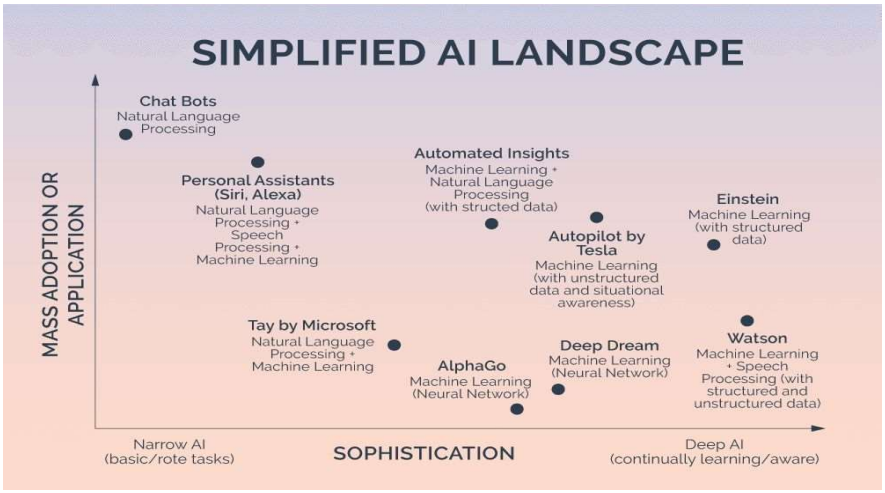

Fig 1: Simplified AI Landscape for Project Management

Integration & Automation Tool:

When it comes to Integration and Automation there is already strong focus on integrating and streamlining through workflow integration and process automation and it will continue to do so by focusing more on effective project management processes. Enhanced tools for streamlining standardized project management will thus emerge from both existing project management software providers, workflow management vendors and start-ups. This will in turn enhance the quality of standard project management processes and will reduce the effort and costs involved in basic PMO tasks.

Project planning can be made more robust by enabling auto-scheduling by means of programmed logic and rules by means of automatically tracking the progress and status of the tasks performed by project team members and alerting the project manager only for intervention whenever any exception happens. Integration between project planning and the incident management tool will enable in highlighting the potential delays based on a high number of defects within certain work stream.

Chatbot Assistants:

Chatbot Assistants can work as personal assistants to the project manager in terms of scheduling meetings, plan vs progress checks, reminding project team members of scheduled activities etc. Chatbots are considered as the second phase in the evolution of AI in project management. Bots will take a role in human-computer interactions, mainly based on speech or text recognition.

Bots can be integrated with the personal assistant like Siri or Corona or other digital channels and respond to project manager's queries. Chatbots can answer queries by project manager such as "What are all deliveries to be executed today?" or "On what team is working today?"

Project assistants will continue to take over repetitive works from the project manager and the project team and there will be more machine and human interactions happening. As a consequence, the role of classic project manager leading a PMO and its staff will increasingly be replaced by intelligent project assistants (chatbots).

Current real life use cases include:

- Fireflies.ai is an AI bot for Slack that processes conversations within Slack and recognizes tasks and assignments on this basis
- Stratejos.ai sends team members reminders, track their performance and enables the project manager to recognize top contributors based on measurable

Machine Learning based Project Management:

Machine learning enables predictive analytics and can provide advice to the project manager on how to set up and steer the project given certain parameters, and/or how to react to certain issues and risks to reach the best outcome based on what worked on past projects. This is the third phase of AI in project management where in machine learning is getting introduced.

AI will be able to convert mind maps created by project professionals into semantic network and derive tasks and entity relationship from it. As an example, AI based project scheduling could include lessons learned from the previous projects and can suggest multiple project schedules based on the context and dependencies. Project plans can be adapted and re-baselined in near real time based on historical team performance and project progress.

Through machine learning potential risks in a project can be predicted well ahead of time. This will enable the service provider team to determine the nature of upcoming problems, identify the areas that will be impacted and can take remedial actions to prevent it from occurring at all. Machine learning can also be used to create models that can predict cost overruns, delays in the delivery schedule and other critical aspects of project execution that are critical to the business performance of the organization.

Autonomous Project Management:

This is at the high end of the project management where in AI based tool is expected to run and manage the project as autonomous project manager similar to self-driving car. This not only requires the technical project management aspects covered in the last three tools but should take into consideration of complex environment in which the project works and the stakeholder analysis as well as management.

These AI systems would therefore have to be able to apply sentimental analysis algorithms to crawl through customer communications and understand stakeholder satisfaction and commitment at any given point in time. There are currently no real-life use cases supporting fully autonomous project management. However, in future autonomous project management will be the extension of machine learning areas especially in small and noncomplex projects.

Artificial Intelligence (AI) Tools in Project Management				
Knowledge Domain	Integration & Automation	Chatbot Assistant	Machine Learning	Autonomous Project Management
Integration Management		Chatbots will act as intelligent digital assistant to Project Manager. It will help in updating tasks, issues, schedules dynamically either through text or speech.	Machine Learning algorithm will predict potential issues and risks of the project from historical data, project organization scope and external environmental factors. Will do better predictions of resource usage and quality metrics on a new domain or technology	
Scope Management			AI will be able to convert mind maps created by project professionals into semantic network and derive tasks and entity relationship from it. It will enable in defining the WBS of the tasks	
Cost Management	Through Robotic process automation automatic invoice entry and reconciliation can be done. Dashboards will enable to monitor real time project cost metrics and drill down to lowest level of details		Machine learning algorithms can be used to forecast project cost using historical data.	

Time Management	Project planning by enabling auto-scheduling, programmed logic and rules by means of automatically tracking the progress and status of the tasks performed by project team members and alerting the project manager in case of exception	Project team can update task status by entering a natural language text in a chat window through tool such as Cisco's project assistant tool Spark.	AI based project scheduling could include lessons learned from the previous projects and can suggest multiple project schedules based on the context and dependencies. AI assistant can determine if the project is on track and whether the tasks on critical path are on risk or not	
Risk Management			Machine learning combined with Monte Carlo simulation can support project manager in risk evaluation and simulation.	
Quality Management			Through cognitive technology thorough technical documentation such as scanning of complex contract and understanding of key terms can be done.	
Stakeholder Management			It can understand stakeholder analysis based on text analysis and can provide recommendation how to engage with them.	It can utilize sentimental analysis algorithms to mine through key communication emails from customers and understand customer satisfaction at any point of time.
HR Management			It can guide project manager to manage complex projects efficiently using the historical data and learning from knowledge database.	Resourcing bot can match the skills required for the project with the resource availability in the organization and recommend the resources. It can also identify the training needs of the resources with the skill matrix and assign necessary

				training. It can also scan data sources like LinkedIn and identify suitable & available candidates
Communication Management		Helps in generating the periodic status report to stakeholders. Can track the task progress and status from team members.	Machine learning will enable to analyze social networks like twitter feeds, Facebook comments, web reviews to understand the end user feedback & concern.	
Procurement Management			It can provide risk analysis & credit check of the suppliers and can recommend right supplier.	

Table 1: Artificial Intelligence (AI) tools in project Management/ Source: Own data compilation

Challenges for Successful Implementation of AI:

As project management covers various disciplines, a project manager has to master all of them to be successful. A project manager environment is without any doubt much more complex.

The talent triangle from PMI groups the various required skills into Technical Project Management, Strategic and Business Management and Leadership.

1. *Technical Project Management*

It encompasses the various tasks involved in managing and running a project. Intelligent project management assistants, bots and machine learning algorithms support project managers in their daily work by analyzing status and providing data driven insights & forecasts.

2. *Strategic and Business Management*

This skill is required to analyze, judge or prepare business decisions. AI can help by preparing parameters, identifying interdependencies or forecasting business outcomes. The more sophisticated the underlying models and the more accurate the data streams available, the better AI can support the project manager.

3. *Leadership*

This involves various interpersonal competencies such as guiding, leading and motivating people/ stakeholders. This is the area where project manager can focus while some of the efforts of project manager in other areas can be supplemented by AI.

	Integration & Automation	Chatbot Assistants	Machine Learning based Project Management	Autonomous Project Management
Key Elements	Streamlining and automating tasks through integration and process automation	Integration and automation with additional human-computer interaction, mainly based on speech or text recognition	Enabling predictive analytics and giving advice to the project manager based on what worked in past projects	Combining the previous phases, autonomous project management leads to little-to-no human interaction in project management
Outlook	Sophisticated project management tool will enhance the quality of project management processes and reduce the effort and labor costs Project managers can focus more on complex project activities creating value for the project	Chatbot assistants will take over project management tasks, relieve project teams of repetitive tasks and provide more interactive automation capabilities. The classic project manager leading a PMO will be increasingly replaced by project assistants	Predictive project analytics will give project managers increased visibility into the project's future and enhance the quality of decision making. Machine learning powered project management will give intelligent advice on project scheduling and project risks	Implementation of autonomous project management for smaller, standardized projects involving relatively little human/ stakeholder interaction. Purely autonomous project managers seem unlikely within the next 10 to 20 years, since certain skills such as emotional intelligence, creativity and leadership will remain the domain of humans
Where AI will support Project Management Skills				
Technical Project Management	**√**	**√**	**√**	**√**
Strategic & Business Management	x	x	(√)	(√)
Leadership	x	x	x	(√)

Table 2: Summary of anticipated evolution of AI in project management/ Source: PwC Transformation Assurance report 2018

The Project Manager of the future:

AI will undoubtedly change how projects are delivered and how project management as a practice will evolve. It is very important to remember that there is something AI can't do – Be Human.

This means that project managers will also stay relevant in the age of AI if they focus on the core skills of project management and progressively move into work that emphasizes human skills.

This includes:

- Leadership
- People and Stakeholder Management
- Communication (Verbal and Non -Verbal)
- Storytelling
- Empathy
- Emotional Intelligence
- Negotiation

Conclusion:

AI can be distinct accelerator and game changer for project managers and thus can help increase in project success rate. However, deployment of AI alone will not guarantee success. Human intuition, feelings, ideas, emotions and passions can't be replaced by AI, thus a project manager will be needed in future. The future project manager need to see beyond bounds of "human imagination' and see how AI can add real value and drive positive change in project management and business transformations. This will ensure strategic value of project management.

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Profile - Vaskar Roy 

- Having overall 22 years of experience in varied industries in IT Consulting
- More than 16 years of experience in leading and managing large & complex project implementations and application maintenance services across the geographies
- Have led projects as project & program manager as well as delivery project executive mainly in ERP space
- Currently working with IBM India. Have got previous work experience with PwC, Accenture Malaysia, SAP India, L&T Infotech etc.
- Have done Bachelor of Engineering (BE) in Electronics & Communication from National Institute of Technology (NIT), Trichy
- PGDM from International Management Institute (IMI), Delhi
- General Management from INSEAD Singapore/ France
- PMP Certification from PMI, USA

Technical Article 2:

Disclaimer:

All views expressed in this technical paper are my own and do not represent opinions of any entity or individual whatsoever with which I have been, am now, or will be affiliated. If anyone disagree with something, I would welcome a discussion. It would be my privilege to learn and improve, wherever required. I'm listening.

Abstract:

We have been part of an internet era from more than two decades now where every business wanted to be an internet business. For example, many e-commerce players whether into retail marketplace segment like flipkart, amazon, etc. or aggregators in retail BFSI segment like BankBazaar, PolicyBazaar, etc. Today all businesses wants to be a digital business regardless of the sector that they are operating into. In this digital era; to meet customers' expectations of rapid, responsive services and digital experiences requires all businesses must harness new age technologies more quickly and pervasively than ever. To be alive in the business race; organizations must meet consumers' expectations of services on their terms – instant, mobile first in fact multichannel, easy access to services and transactions, rapid innovation, agility, and flexibility etc. With "New IT" like digital, blockchain, cloud, AI and analytics, complexity and risk will only increase. To support change of this magnitude and pace certainly demands new approaches to project management. To successfully sail through challenges thrown by digital disruptions, project managers not only have to adopt new age technologies but also adopt new thinking, change of processes, cultural changes and competencies to manage projects effectively. So from where should they start?

This paper elaborates a digital age project execution framework through the lenses of value delivery office, organization culture, governance, and PM tools with "New IT". The key components of the framework includes value delivery, design thinking, innovation, partner eco-system, leadership, technology, risk and change management. For instance, in governance we will discuss how risk and changes can be effectively managed. Under organization culture we will discuss how design thinking, innovation and partner ecosystem helps to deliver digital solutions rapidly. The new age technology disruptions like AI, Machine learning, Blockchain, Augmented reality, etc., call for a new generation operating framework for project leaders encompassing an entrepreneurial mind-set. The paper takes examples from some of the real life case studies and provides implementable recommendations for today's project leaders.

Keywords:

Digital, Design Thinking, Value Delivery, Innovation, Agile, DevOps

Introduction:

IT change is slow (many businesses are reluctant to migrate legacy systems), and Agile projects are no faster or successful than Waterfall projects. New front-end digital applications—cloud-hosted micro-services—are complicating back-end enterprise changes and exposing errors to customers. The only traditional program management framework is insufficient to manage demand, mobilize projects and effectively govern delivery in case of multi-year, multi-supplier digital age transformation program. There are too many suppliers, multi-location teams and project leaders spend all of their time trying to get them to work together and apply consistent standards. Status reports are always amber, and no one seems to know why. Green-field start-ups are using liquid delivery model to fuel an API economy and thus old-school traditional project delivery methodology cannot compete. All of these issues are distracting teams from the broader business goals, and put enterprise in danger of missing the business case, overspending budget, and compromising quality.

Do any of these scenarios below sound familiar in the context of ongoing digital age?

1. How do we improve delivery predictability and quality?
2. How do I deliver business value faster, more frequently and cheaper?
3. Are the tools we are using keeping pace with emergent digital technology?
4. How do we balance demand for business change and speed to market without impacting service quality?
5. How do we make sure we realize the business benefits of our transformation program?

It's no wonder that multiple projects fail to arrive at their end destination. Organizations lose an average of USD 97 million for every USD 1 billion invested; according to research by PMI in the year 2017.

With new age technologies like digital, cloud, AI, blockchain and analytics, complexity and risk will only increase. Technology is now the linchpin of organizations, making failure more visible and damaging than in the past.

Some of the recent crisis situations like 'Brexit', 'Demonetization', 'GST', 'Data Privacy', and the recent 'Aadhar verdict by honourable Supreme Court of India' - impacted various industry segments and as a result associated projects are not only increasing in scales and complexity but are becoming more unpredictable.

The one more key change that each project leader has to successfully manage in their projects is emergence of a millennial workforce.

Not only can system instability or poor quality lose business and cost money, it can set social media ablaze and damage brand reputation. The stakes are high and getting higher.

The traditional project management practices are not capable of handling these new age challenges. This calls for adoption of a next generation operating framework revolving around the fundamentals of our project management practices, for example, PMBOK at the core.

The Digital Timeline:

Technology disruption is no new concept. It is into existence since many years. Technology always enforced businesses to rethink their strategies, business models and projects execution philosophy.

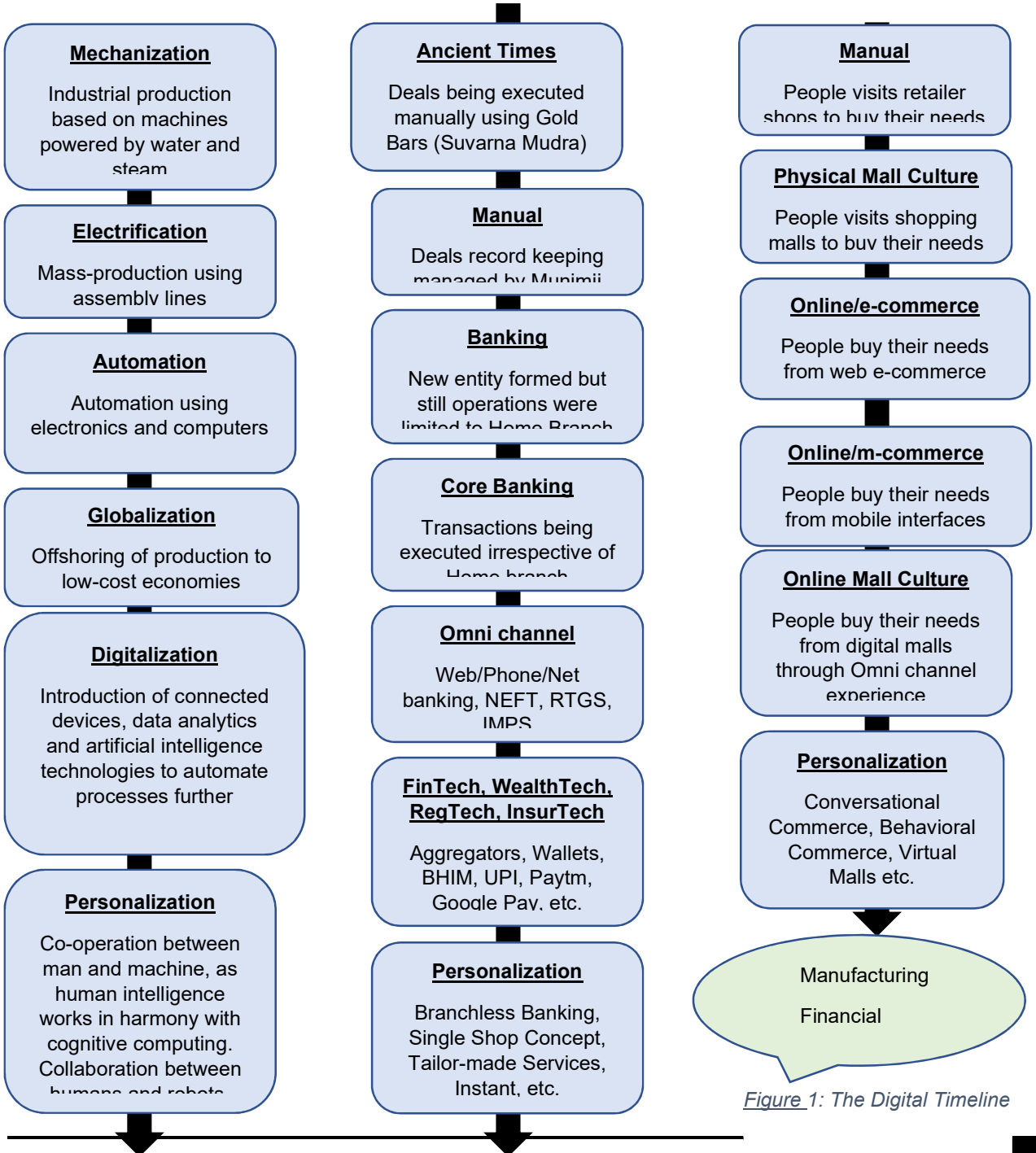

Figure 1: The Digital Timeline

1 SECOND OF INTERNET:

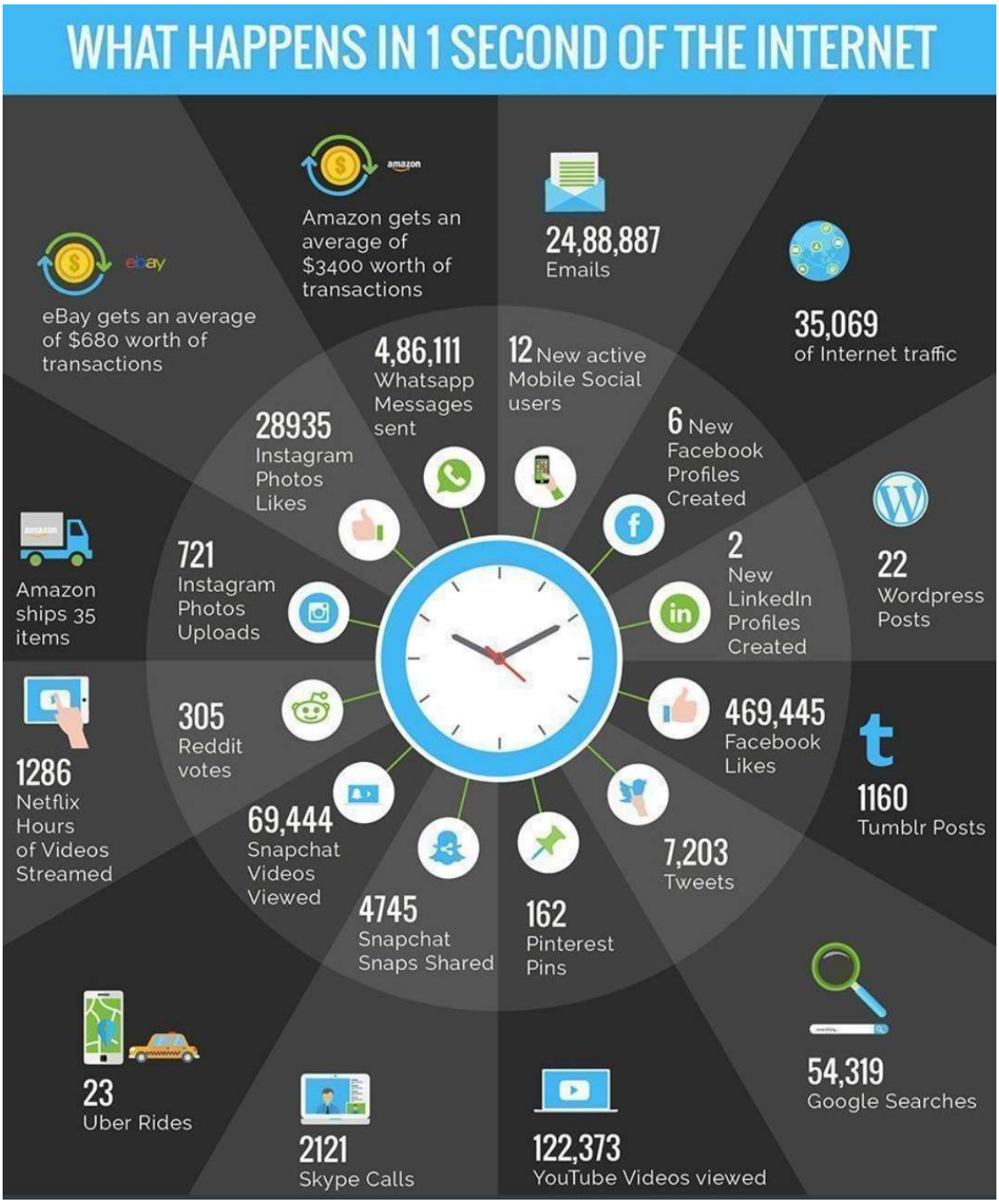

Figure 1: What happens in 1 second of the Internet

Project Management for Digital Abundance:

The Digital Era has been mostly defined and conceptualized by studies done in the context of understanding the generational gaps and reflecting on the future trends. But this is not completely true. Here we also have to focus on the influence of technology in terms of simplicity and speed. “The Digital Era is characterized by

technology which increases the speed and breadth of knowledge turnover within the economy and society" (Doukidis, Mylonopoulos, & Pouloudi, 2004). The influence of technology has rewritten the way business is done. According to Berman (2011) "to succeed in a Digital Transformation Era, leading companies focus on two complementary activities: reshaping customer value propositions and transforming their operations using digital technologies for greater customer interaction and collaboration.'' Digital era demands both connecting to the customers and being more adaptable to the changing influence of innovation and technology. Any Business or Industry that does not embrace the nodes of technology and understand the new digitally connected customers will not be considered to be in the game! They may perish without evidence of their existence.

The Indian Postal Department:

Today with the evolution of fast reaching Short Messaging Services (SMS), Email services and Free Messaging Applications (like WhatsApp), erstwhile emergency mediums of communication such as Trunk calls or Telegrams are completely erased. The Postman who delivered letters at our doorstep was once a very anxiously expected guest for many households, especially in the remote villages. But today this "Guest of Ours" is slowly getting out of our memory. The mobile phones are far effective in connecting people across geographies. It is never too late. Recently Indian Government launched an initiative (financial inclusion) to leverage strength of an existing postal department network as Payments Bank.

To summarize; the two key changes that each Project Manager has to successfully manage in their projects are new age technology disruptions and emergence of a millennial generation (whether as workforce or as end customer). The traditional project management practices needs fair amount of tweaking to successfully manage all these challenges. Such alterations revolves around the fundamentals of our project management practices, for example, PMBOK at the core. We will run through these alterations in below sections.

Value Delivery Office:

In my decade long experience in the IT industry while working on projects from multiple business domains; I have observed that in most of the organizations PMO (Project Management Office) is treated only as a support function (the general perception). The days are gone where PMO just has limited roles of supplying required process templates, doing training arrangements, providing operative assistance, compliance checking, conducting audits etc. The need of the hour is to set up VDO (value delivery office) which has far more responsibilities in the direction of how organizations can deliver more and more values to their end customers. The VDO can be comprised of multiple domain experts from various areas. The main objective of VDO is to drive "Value First" type of thought leadership culture across all projects, programs and portfolios. Such value driven culture helps organizations to prioritize relevant programs and projects. Due to proper

prioritization; it helps to manage multiple funding sources (business, technology etc.), to achieve transparency across organization, to build team level execution accountability, etc. It also helps organizations to become more and more agile in terms of project delivery and with agile capabilities it provides ability to fail at very early stage rather than failing at the end of a particular initiative which is the normal case in waterfall based project execution. Table 1 illustrates some key fundamental changes (already happening and continue to evolve further in future) which fully supports this VDO based concept.

Near Past AND / OR Present (PMO concept thinking)	Immediate Future (VDO concept thinking)
Delivering requirements with focus on specific technology and processes	Delivering requirements with customer centric focus
Project Performance (KPI) measured in terms of budget and scope	Project Performance (KPI) measured in terms of innovation, customer satisfaction and end outcome delivered
Delivery with focus on operationalizing laid standard processes	Delivery with focus on innovations
Waterfall methodology for project development	Agile methodologies with BizDevOps (Business, Development and Operations Integration)
Focus more on sustaining risk	Encompass disruptions (value generation) by taking calculated risk
Close control in the project team	Empowered project teams with shared ownership and individual accountability

Table 1: Value Driven Thinking

Organization Culture:

Below are few important traits which certainly helps an organization to build a culture suitable to digital era.

Design Thinking:

Journey from the waterfall model, transitioning to agile/scrum methodology, and then to DevOps and now BizDevOps, the future of project management is deeply linked to design thinking. The design thinking approach necessitates project managers to work with large set of stakeholders, engineers, industrial designers, artists, user experience guys, end users etc. The project manager plays an important role in narrowing the scope of requirements that generates the most usable, affordable, non-typical solutions. The key changes required in a project management approach are – people centricity and empathy, extensive collaboration, taste for creativity, openness to absorb diverse viewpoints, and the most important of all, hands-on – dirty your hands for the task. Willingness to fail early is the key.

Innovation:

This is very important characteristic of value driven culture in today's disruptive world. Project managers must mentor their team members to more and more innovate. In today's uncertain world where technology itself has become a business model; innovation helps a lot to an organization to grow rapidly. Elimination of

fear from failing is key to drive innovations. Also continuous innovations with the rapidly changing world is key to scale business. Most of the KPI now are tightly linked to Business KPIs. Program Managers need to create an environment of creativity and drive innovation. Gone are the days where only logical thinking (sometimes known as vertical thinking) helps to deliver solutions. In digital era program managers must adopt new age creative thinking – system (solutions for interconnected world – integration is key here), lateral (solutions where direct reasoning fails – indirect reasoning required for new age digital technologies) and design thinking (solutions using intuition and logic for human centric problems – delivering effective customer experiences) techniques.

Foster on relationship and ecosystem:

Gone are the days of complete self-build or build/buy decisions. We are living in a world of environment and ecosystem. In this ecosystem, there is a lot more dependency for projects to have on how others produce their output. This dependency includes timing, quality, and feature set. Does project manager have the ability to create relationships in the right manner so that you can influence your ecosystem partners? This ability to influence defines your success/failure in this digital era.

The India GST Story:

A leading technology company has an enterprise grade application integration platform as one of the product. This integration platform has few important features – code free technology with drag and drop environment, ready to use application connectors, connector builder, publish and consume services rapidly. As soon as Indian government had announced the official launch of GST countrywide; they immediately grab this opportunity and launched strategic program with purpose of serving Indian businesses in their journey of GST compliance. To generate program benefits; they use techniques like **Innovation**, **Design Thinking** & **Partner ecosystem** to deliver automated box solution which can be rapidly deployed.

1. They entered into strategic partnerships with GSPs (GST Service Providers) – where strength of each partner can be leveraged – GSPs comes with business expertise of GST laws and tech company comes with integration expertise
2. GSPs were having access license to connect with GST server – but they were facing challenges in sourcing invoices data points from variety of financial applications automatically - with the existing capabilities of integration platform like ready to use connectors for all major financial applications (SAP ERP, Oracle ERP, Microsoft ERP, etc.) they will be able to pull all required data in an automated way
3. By using rapid code free technology - the technology company built ready to use connector for GSP interface application by putting one time development effort
4. So now for GSPs - both side automated connectivity (one side was end customer's financial application and other side was GST server) is present to source and then transform data points

5. GSPs were able to deploy such box solution rapidly even with remote access and with comparatively limited team size

Leading vs. Managing:

The new generation (full of millennials) is becoming extremely smart. Highly confident about their capabilities, they have a taste of their own. Their working style is different; they want more freedom and flexibility in their work. As "flat" is becoming the mantra of everything, this generation is also applying that mantra in their relationship with their boss. Project managers need to really consider the spirit of flatness with their team. Rather than manage, lead the team to get the best output.

❖ Impact on workforce due to Technology disruptions:

Project leaders also needs to focus on managing emotional impacts on workforce due to new age technologies disruptions. Businesses are talking about more and more automations using "New IT". Automation is good for businesses to scale. But at the same time; this phenomena has created fear of job loss in the workforce. This fear is diverting their focus from work and so they make abrupt decisions with short term volatility. Here project managers have to adopt coaching based leadership approach. Project leaders should encourage their team members to upskill their competencies. Project leaders should pass a clear message to workforce that technology can not completely replace human factor.

The HR Department:

All major back office processes (leave application workflow, CV sourcing and parsing, recruitment workflow alerts, policy knowledge base, etc.) into HR department can be automated using AI and ML powered Chatbot. But this doesn't mean that HR departments will be completely replaced with the use of new age technological implementations. The automation is going to take away jobs of support functions only. Every organization has to consider HR department as one of strategic business unit and not only a support function in such a dynamic business environment. Machines can't do Human work at its best. HR will have personalized (currently major workforce are from millennial group where each had unique taste of career) dialogue to the employees, will be with them, will create development plans for them, will do succession planning in a real sense, groom them, mentor them, and will develop people in the truest sense. Due to Human factor; HR and new age technologies must co-exist to do better for organizations.

- Leaders needs to develop following **HAVE** competencies to survive in this digital era which is full of uncertainty.
    1. **Humble:** Accept feedback and acknowledge that others know more than they do
    2. **Adaptable:** Accept that change is constant and that changing their minds based on new information is a strength rather than a weakness
    3. **Visionary:** Have a clear sense of long-term direction, even in the face of short-term uncertainty
    4. **Engaged:** Have willingness to listen, interact, and communicate with internal and external stakeholders combined with a strong sense of interest and curiosity in emerging trends
- Following are the actions expected from leaders to successfully navigate disrupting environments.
    1. **Hyperawareness:** They are constantly scanning internal and external environments for opportunities and threats.
    2. **Informed decision-making:** They make use of data and information to make evidence-based decisions.
    3. **Fast execution:** They are able to move quickly, often valuing speed over perfection.
- Below are three main styles of leadership. The trend of situational leadership is emerging. The project managers should try mix blend of leadership styles based on situations exist. Gone are the days where one can depend only on a single leadership style to execute projects in digital era.
    1. **Position & Planning:** Leaders predict future based on information that provides insight into the degree of uncertainty faced.
    2. **Organizational Learning:** Leaders dynamically respond to unfolding events when the degree of uncertainty is not predicted.
    3. **Constructive Transformation:** Leaders focus on leveraging their resources and events to shape the environment. This is called entrepreneurship mindset.

Governance:

Phase gate reviews and health check reviews are two most important tools which helps program leaders to handle risk and changes both in favor of an organization.

Risk Management:

In the era of new age digital technology disruption, project complexity is growing rapidly. Traditional risk management practices (for example, BCP and DR) may not be sufficient to handle tomorrow's crisis situations. Two important areas where project leaders must focus is: stress testing and crisis reporting. Stress testing can be seen as a proactive approach where you anticipate what all crisis scenarios might occur in future and conduct a stress test on project operations, simulating the crisis scenarios, to check how well the project can handle the actual crisis. This helps an organizations to prepare for actual crisis in future. Crisis

reporting on the other hand is a reactive approach. It is a framework which is executed once the actual crisis has happened. The intent is to effectively report various project operational parameters to the project team to make the necessary corrective decisions during the time of crisis. Crisis reporting is an advanced form of traditional risk management practice. Both stress testing and crisis reporting are mostly applicable at large program levels or at the organization level.

Change Management:

Tamara McCleary (recognized expert on branding, influence & social business) once correctly said:

"Digital transformation and new tech reflects the truth that everything is always in a state of movement. When we resist change, we resist growth".

The key component that binds all things together in project execution and ensures success is effective change management. The project lifecycle keeps changing frequently because of digital technology disruptions, frequent changes in customer expectations, changes of organization structures etc. Change management is a framework to communicate changes in the project environment to all external and internal stakeholders in an effective manner, to ensure their buy in and continuous support – thus an effective change management helps to build collaborative work environment.

Project managers who are good at strategizing change management, fail at delivering them. According to a survey; which states that 46% of change management fails at the execution level. The perception of most project managers that just by changing the communication processes one can execute an effective change management, is completely wrong in this era of digital natives. The key aspects of change management are people, culture and external forces. Project managers has to manage all three aspects to enable effective changes to the business.

1. **People:** Belief, attitude, and behavior. The organizational change and personal change in a workspace always goes hand in hand. According to the psychological concept of "cognitive dissonance" - "a distressing mental state arises when people find that their beliefs are inconsistent with their actions". What it implies, in large digital transformation programs, is that if people believe in the program's overall purpose and it is in alignment with their own life purposes, they will be more inclined to change their individual behaviours to suite the program's need.
2. **Culture:** This differs based on geography (multi location project teams), age group (older generation vs. millennials), and structure (workers vs. business stakeholders) and hence we cannot have one solution fit all approach.

3. **External Forces:** The current global market environment is very uncertain and volatile. Project leaders should have to keep themselves aware about all possible external forces which can affect their initiatives. Following are few quick examples to look - Brexit, US VISA Policy, Demonetization, GST Compliance, RERA Compliance, and recent verdict on restricting usage of AADHAR by honorable Supreme Court of India.

The India Demonetization Story:

This is a very good example of sudden disruption. The demonetization was announced by honourable prime minister of India on 8th November 2016.

- **Change Management:**

The initial message that went out was demonetization will help to create a cash less economy and to build digital new India. Initially most people were sceptic (disbelief) and were not eager to go cashless as they were more inclined towards cash transaction by older thinking and culture itself. In later part message was bit changed stating that demonetization will help to remove corruption. People connected to this message very well. They realized that the end outcome will help their day to day life and hence they started readily accepting the sudden change in spite of all kinds of hardship. From the program management perspective, a stakeholders will be more inclined to adapt complex changes if they feels it is linked to their personal goals and objectives.

- **Risk Management:**

Thorough stress testing and crisis reporting is important to manage risk. Bureaucrats forget to consider impact of structural changes required in ATM machines due to the size difference of new fiat currency notes. This gave further nightmares to operations of all major financial institutions countrywide. From the program management perspective, in case of change if impact analysis not managed properly, requirements not listed with all due diligence, not doing stress testing, and prioritization of needs not done effectively any program will be in crisis situation even if the intention is good. RBI must have consulted each bank to provide ground level crisis reports on how demonetization is unfolding. This helped them take necessary corrective decision as evident from the multiple changes in rules announced in the subsequent months post demonetization. Hyperawareness is the key.

- **Few good sides of a story:**

Businesses tried to grab opportunity of change and positive side of risk. Many payment wallet companies and FinTech start-ups responded to this change with positivity for their business growth. Immediately on next day of demonetization front page of few renowned newspapers printed ads from Paytm. Later one of the private sector bank linked their marketing strategy of smooth digital customer on-boarding strategy with the date of demonetization (811 initiative).

- **The Nokia Story:**

We are all aware about the sad story of a giant company - Nokia (a mobile phone manufacturer). They haven't innovated themselves enough with the changing time. On the other side their competitors like Samsung, iPhone etc. came and provided completely new experience (in terms of smart phone) to consumers. So customers stopped using Nokia mobile phones and later the company has to shut down their operations.

Following are few important learnings based on our experience:

- Change management is a continuous process with long term engagement (not management) for all stakeholders (upstream to downstream). It is not only a one-time activity.
- Change management is bidirectional that is, communication should be both outbound and inbound. Not only should stakeholders be provided the right information at the right time, their input and feedback should be received and acted upon.
- Change should always start at the top that is business stakeholders, before moving down to the bottom. Most Project Managers do the reverse that is, follow the bottom up approach.

Project Management with 'New IT':

Project leaders need to understand power of new age digital technologies such as Artificial Intelligence, Machine Learning, Data Science, Blockchain, Integration, etc. Project leaders must employ right fit tools (powered by 'new IT' notion) into project management practices. Such tools can certainly help project managers in improving overall productivity and predictability of project completion. Below are some of the practical use cases to imagine.

1. **Work Estimation:** Although there are many techniques available; this is very complex problem every project manager has to deal with. Either we overestimate (client's company can run away to other competitors) or underestimate (working company has to run project at loss in case of fixed bid contract). AI & ML powered algorithmic models can help project teams to estimate the right (near to perfect) amount of efforts for a particular type of project work. The same model further can be improvised by adding more and more data points as we work on multiple types of project work assignments. In case of very large projects (with long list of requirements) such tools can help to speed up overall work estimation process.
2. **Stakeholder Engagement:** Human nature is so unique and complex science that to understand and predict behavior of a particular stakeholder is very difficult in large global projects. With right amount of multiple historical data points like communication trails, conflict incidences, personnel profiling on behavioral traits (positive and negative) a scientific model can be developed to chart out an

effective engagement plan for all associated stakeholders with a particular project activities. AI and ML based technologies certainly helps in designing such algorithms.

3. **Procurement Management:** Complexity of executing projects always increases with large number of suppliers present in the scope of a particular project. Blockchain kind of technologies can certainly help to optimize entire Supply chain mechanism. It helps to build Decentralized Autonomous Organization (DAO) - an organization represented by rules encoded as a computer program that is transparent, controlled by shareholders and not influenced by a central government. The important feature of blockchain like smart contract – which automatically gets executed between parties for any kind of predefined contractual obligations – this will really help to build accountable culture amongst partner ecosystems.
4. **On-time and On-budget:** Blockchain technology can be an effective PM platform not only because of its technical superiority. Technically, it is redundant, resilient, and secure in such a way that any attempt to tamper with it will be very costly, and will always promote trustworthy data. But it is also effective because it enables superior operational workflow. Implementing a blockchain-based project will create business value. It will result in time-saving, cost removal, and risk reduction. When time, cost, and risk are the concerns, who else but the project manager is the ideal person to manage these.
5. **Scope and Communication Management:** In setting up the private blockchain network, the project manager is the expert in communicating with all participants in order to define requirements, scope, budget, deadlines, and deliverables that the blockchain will identify, verify, and validate as transactions. The technology can help simplify any issues that involve reconciliation, arbitration and intermediation. But it will always be the project manager who can talk with any person regarding their concerns and provide the needed explanations. And in the end, it is the project manager who delivers the news that the project has been completed, and that the customers are happy.

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Himansu Patel 

- Program Management Professional – by PMI
- Project Management Professional – by PMI
- Prince 2 Foundation & Practitioner – by AXELOS
- Certified Blockchain Expert – by Blockchain Council
- Advanced HRM – by IIM Ahmedabad

- An engineer turned general management professional with more than decade long extensive experience acquired in strategy planning, profit centre operations, key accounts management, HR business partnering, talent acquisition and portfolio management
- Proven experience in setting up the entire end to end business operations, managing P&L, improving margins & overall profitability by reducing cost in a start-up environment
- Currently associated with an ISRAELI multinational called **Magic Software Enterprises** (Technology Product Company) in the capacity of Regional Business Head

A Report on the 2nd Trip to the Statue of Unity on June 1 2019.

By Minaxi Vaishnav

The Statue of Unity

Practical project insight - site visit

On 1st June 2019, PMI Mumbai Chapter organized a unique professional educational visit for chapter members, to **the world's tallest statue** under construction.

The Statue of Unity, is an iconic 182 meter tall monument statue of Vallabhbhai Patel, a tribute to the Iron Man of India, an inspiring memorial site.

It was a unique learning opportunity for members to interact and learn project management at best for such unique engineering marvel. Project Lead, Major Edmund Keen gave an insight into the various aspects of the project.

Some highlights of ***The Statue of Unity*** Project:

- It has been constructed facing the Narmada Dam, 3.2 km away on the river island called Sadhu Bet.
- This is another unique case of a public-private partnership (PPP) basis by engineering giant L&T under the supervision of the Sardar Sarovar Narmada Nigam Ltd (SSNNL).
- A consortium of Turner Construction (project manager of Burj Khalifa), Michael Graves and Associates and Meinhardt Group, is supervising the project.
- The last phase of project was undertaken in record time of 10 months and the status was dedicated to the nation on the stipulated date – 31st Oct 2018
- The total project cost is estimated to be Rs. 2989 crore
- The total height of the statue from its base is 240 metre consisting base level of 58 metre and statue of 182 metre.
- It has been constructed with steel framing, reinforced cement concrete and bronze panels
- The statue has used 75000 cubic metres of concrete, 5700 metric tonne steel structure, 18500 tonne reinforced steel rods, 22500 tonne bronze sheets for construction.
- In the first phase, a bridge connecting the memorial to the mainland, a memorial, visitor centre buildings, a memorial garden, a hotel, a convention centre, an amusement park, research centres and institutes is being constructed.
- The Statue of Unity has been designed as a naturalistic and historically accurate representation of Sardar Patel, wearing characteristic garments, in a walking stance.
- *The Statue of Unity* has been designed to be able to withstand wind velocity up to 50 m/sec, vibration and earthquake
- The observation deck, situated at a height of around 500 ft from river bed, and can accommodate up to 200 people at a time. It provides visitors a panoramic view, enabling them to see the beautiful Satpura and Vindhyachal mountain ranges, the 212 km long Sardar Sarovar Reservoir, and the 12 km long Garudeshwar Reservoir.
- At the base of the statue interesting information about the life of Sardar Patel have been displayed. A theatre shows excerpts of the important events of his life. A vast collection of pictures engrosses the public.

Apart from statue, members also visited witnessed the laser show

The 30 minute laser show depicted the life and achievements of Sardar Patel. It was a beautiful combination and sound and light with images beamed on the iconic statue. The laser show is another milestone in the annals of Indian history.

Participating Members Learned about following aspects:

- Project insight from initiation to closure, especially execution
- Insight into challenges faced and actions taken on an on going basis to overcome them
- Lean practices followed by Project Managers
- Project planning, Visual monitoring & tracking
- PoC samples & models built for approval of various project components
- Overview of Risk management, stakeholder management & communication

- Maintaining team passion & motivation
- Giving back to society through CSR activities
- Collaborative learning from other members
- Networking opportunity

Members in conference room - Turner Consortium on 1st June 2019:

The PMI MC, Vadodara Volunteers: Ms. Minaxi Vaishnav (AVP) , Mr Utkarsh Pundlik (AVP) and Mr Rajesh Panchal , Mr Vrushank Buch coordinated the whole event to bring it a success, having accepted our interest to re-visit the site by Mr Kapil Pathak , a Project Member at Site.

We at PMI Mumbai chapter also successfully completed Mega Tree plantation drive which was organized on 7th July 2019. This was part of the PMI initiative to meet the 50,000 hours globally for the Sustainable Development Goals.

We had total 359 registration and 194 participated in the event. Team worked on tree plantation for 5 hours.

Mega Tree Plantation – 2019: PMI Mumbai Chapter

Every year in the first week of July, India celebrates **Van Mahotsav** and encourages citizens to plant trees. As a part of this initiative, a group of citizens from Mumbai and around Mumbai have planted close to 2500 saplings in the last three years. They call this group as **MTP** [Mega Tree Plantation].

MTP is not an NGO, Trust, association or any organization. These are common citizens from Mumbai/around Mumbai. This plantation drive is for common citizens.

This group have been planting saplings/trees for the last three years. MTP is like a Movement of the People, For the People, By the People.

This year, on Sunday, July 07, 2019, MTP planted saplings in collaboration with PMI Mumbai Chapter at Depoli in Angaon, Bhiwandi supporting Thane forest department. The plantation happened on forest land. This land was secured as per forest department laws. Therefore, the survival rate of the saplings are high (As good as 80%).

Here is the Google Map location of the site : https://maps.google.com/?q=19.405933,73.051655.

The entire event was well coordinated and organized by group of individuals/volunteers. They took care of every small thing required to make this event a major success. Team did registration using google form online and based on registration they arranged three buses from three different route. More than 194 people joined this event including kids and senior citizens. The day was full of fun and great social cause to save our environment. Here are few glimpses of the event.

In the pictures below some of the PMI-MC Board Members and Chapter Volunteers are seen actively participating in the Tree Plantation.



Buses were arranged to take the participants to the site for the tree plantation.

Snacks and lunch arranged for the participants

Social Project – Beach Clean Up @ Bandra

Workshops held in July 2019

Kanban Course... by Rajesh Dadlaney on 6-7th July 2019 at VITS Hotel Mumbai. *This was planned and announced, however it had to be cancelled due to few registrations.*

Workshop planned in August 2019
Risk Management for EPC Projects by Manoj Kumar Singh on 18th August 2019. This is at Vadodara.

Workshop Planned in November 2019
Certification Course – 5 day program on NLP by former President of Mumbai Chapter – Rakesh Gupta.
Venue: TBD

In addition, we have planned the PMP training – (PMBOK 6th Edition) at Vashi for the first time.
Dates are 10th/11th/17th/ 18th August at Hotel Supreme Heritage, Vashi
Enrol now for the Early Bird Discount.

Please note the PM forum meets are being held as per schedule below:

@SIES, Nerul: Every 2nd Sunday of the month

@ MPSTME: Every 3rd Sunday of the month.

We make attempts to repeat the Speaker's sessions alternatively at MPSTME and SIES.

Timing: 10:00 a.m. to 12:30 p.m.
Snacks and Tea is served.

For PMI Mumbai Chapter Members: No cost
For non-PMI-MC Members: Rs.500/-
Please check your registered email with the Mumbai chapter and register for the events.
It's a nice option to earn PDUs and a good opportunity to network and socialize.

Tit-bits:

(extracted from the Internet)

Upcoming Infrastructure Projects in India

1. **Sagarmala Project**

Vision of the Sagarmala Programme is to reduce logistics cost for EXIM and domestic trade with minimal infrastructure investment.

- **Components of Sagarmala Programme are*:***

• Port Modernization & New Port Development: De-bottlenecking and capacity expansion of existing ports and development of new greenfield ports
• Port Connectivity Enhancement: Enhancing the connectivity of the ports to the hinterland, optimizing cost and time of cargo movement through multi-modal logistics solutions including domestic waterways (inland water transport and coastal shipping)
• Port-linked Industrialization: Developing port-proximate industrial clusters and Coastal Economic Zones to reduce logistics cost and time of EXIM and domestic cargo
• Coastal Community Development: Promoting sustainable development of coastal communities through skill development & livelihood generation activities, fisheries development, coastal tourism etc.

2. **Bharatmala Project**

Bharatmala Pariyojana is a new umbrella program for the highways sector that focuses on optimizing efficiency of freight and passenger movement across the country by bridging critical infrastructure gaps through effective interventions like development of Economic Corridors, Inter Corridors and Feeder Routes, National Corridor Efficiency Improvement, Border and International connectivity roads, Coastal and Port connectivity roads and Green-field expressways.

3. **Mumbai Trans Harbour Link, Shivaji Memorial**

The proposed Mumbai Trans Harbour Link ('MTHL') has been planned to facilitate decongestion of the island city by improving connectivity between Island city and mainland (Navi Mumbai) and development of Navi Mumbai Region.

4. **Arunachal Pradesh on Rail Map**

Naharlagun railway station is a railway station located in Papum Pare district of Arunachal Pradesh. It is about 15 kilometres (9.3 mi) to the state capital Itanagar.

5. **Setu Bharatam Project**

The Setu Bharatam programme aims to make all National Highways free of railway level crossings by 2019.

6. **Rashtriya Rajmarg Zila Sanjoyokta Pariyojna**

Under the Rashtriya Rajmarg Zila Sanjoyokta Pariyojna, roads will be developed to connect100 district headquarters across the country.

7. **Inland Waterways**

Inland Waterways Authority of India (IWAI), anticipating an increase in cargo traffic, plans to purchase 8-10 inland cargo vessels to operate on two key waterways – the Ganga and the Brahmaputra.

8. **Gujarat-Gorakhpur Gas Pipeline**

State-owned Indian Oil Corp (IOC) plans to lay the nation's longest LPG pipeline from Gujarat coast to Gorakhpur in eastern Uttar Pradesh to cater to growing demand for cooking gas in the country.
The pipeline will carry 3.75 million tons per annum of LPG, IOC said in an application to the sector regulator PNGRB seeking approval for the pipeline project.

9. **Chardham-Highway Project**

Char Dham Expressway National Highway (Hindi: चार धाम महामार्ग), is a proposed two-lane (in each direction) express National Highway with a minimum width of 10 metres in the state of Uttarakhand. The proposed highway will compliment the under development Char Dham Railway by connecting the four holy places in Uttarakhand states includes Badrinath, Kedarnath, Gangotri and Yamunotri The project includes 900 km national highways will connect whole of Uttarakhand state.

Road will include several long bridges and tunnels to eliminate accident and slide prone areas. Indian Railway and National Highways Authority of India have been directed, by the Chief Secretary of India, to ensure that rail and road highway routes are integrated on this circuit
The project will have bypasses, bridges, viaducts, pit stops, parking, helipads and helicopter emergency response services, etc along the way.

10. Highest Bridge of the World on River Chenab

The Chenab Bridge is a railway steel and concrete arch bridge under construction between Bakkal and Kauri in the Reasi district of Jammu and Kashmir in India. When finished, the bridge will span the Chenab River at a height of 359 m (1,178 ft) above the river, making it the world's highest rail bridge.In November 2017 the base supports were declared completed allowing for the start of the construction of the main arch . The bridge is scheduled to open in 20 19 though that seems highly optimisitic.

Key technical data of the bridge include:
- Deck height (height above river): 359 m (1,178 ft)
- Bridge length: 1,315 m (4,314 ft), including the 650 m (2,130 ft) long viaduct on the northern side
- Arch span: 467 m (1,532 ft)
- Arch length: 480 m (1,570 ft)

This makes the Chenab Bridge: The world's highest railway bridge

Humour in Project Management World:

Body Parts

The body parts argue over who should be in charge.

The brain says he should be in charge because he keeps everything running.

The blood says he should be in charge because he delivers oxygen to everything else.

The stomach says he should be in charge because he provides energy.

Suddenly, the rectum speaks up and says he should be in charge because he is in charge of getting rid of waste.

They all laugh at the rectum and call him names. Frustrated, the rectum shuts down and stops working. Soon the brain is hurting, the stomach is all bloated, and the blood is full of toxins. So, they give in and let the rectum be in charge.

You do not always have to be smart to be in charge, just an ***hole.

(extracted from https://www.brighthubpm.com/methods-strategies/14022-top-five-project-management-jokes/

At a Glance: Your Board of Directors

President	Mr Bharat Bhagat
Vice President	Mr. Mitra Wani
Secretary	Mr. Prabhu Rajpurohit
Vice President-Finance	Mr. Sreegith Nair
Vice President – Certification	Mr. Jacob Zachariah
Vice President – Professional Development	Mr. Manoj Sarasappan
Vice President – Outreach	Mrs. Falguni Rolekar
Vice President – Volunteers	Mr. Manish Dehadia
Vice President – Information Technology	Mrs. Swati Damle
Vice President – Membership	Mr. Vicky Panjwani
Vice President – Marketing	Mr. Raphael David
Advisor	Mr. R.V. Joshi
Advisor	Mr. Rakesh Gupta
Advisor	Mr. D.Y. Pathak

The 17 sustainable development goals (SDGs) to transform our world as listed by the United Nations:

GOAL 1: No Poverty
GOAL 2: Zero Hunger
GOAL 3: Good Health and Well-being
GOAL 4: Quality Education
GOAL 5: Gender Equality
GOAL 6: Clean Water and Sanitation
GOAL 7: Affordable and Clean Energy
GOAL 8: Decent Work and Economic Growth
GOAL 9: Industry, Innovation and Infrastructure
GOAL 10: Reduced Inequality
GOAL 11: Sustainable Cities and Communities
GOAL 12: Responsible Consumption and Production
GOAL 13: Climate Action
GOAL 14: Life Below Water
GOAL 15: Life on Land
GOAL 16: Peace and Justice Strong Institutions
GOAL 17: Partnerships to achieve the Goal

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