Re-skilling the Craftsman: Enhancing evaluation capacity of policymakers for a pluralistic approach.

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Abstract:

An evidence-based approach to policy making has become the cornerstone of programme development and implementation. Furthermore, the proliferation of technology and data-driven innovation provides many opportunities to improve decision-making for more informed policies. To support these transformations effectively, appropriate monitoring and evaluation (M&E) capacities at various levels of governance are imperative. This paper attempts to identify and articulate the constraints in M&E capacity in a VUCA world. The paper outlines collaborative strategies undertaken by the Development Monitoring and Evaluation Office (DMEO) at NITI Aayog to enhance M&E capacities. The paper further builds a framework for supporting appropriate capacity-building strategies for M&E in the VUCA world.

Introduction

An evidence-based approach to policy making has become the cornerstone of programme development and implementation. However, the demand for rigorous high-quality data must come from the programme implementers, and the ability to supply, i.e. set up monitoring systems and conduct evaluation studies must exist in the development ecosystem. This requires building substantial capacities for evidence generation and utilization through programme monitoring & evaluations. Furthermore, today's environment has become more complex, turbulent, and unpredictable due to the emergence of digital transformation, globalization, and environmental impact (climate change, migration) (Friedman, 2016). The fluidity of the environment, commonly addressed through the term VUCA, gets even more accentuated with global shocks like the Covid -19 pandemic or the Iceland volcano eruption (OECD, 2011).

Additionally, at the current speed of change, policy decisions have become increasingly challenging due to inefficiency of long-term choices. However, telecommunications and advancements in cloud computing and storage techniques have boosted application usage and generated a "data gold mine" (Kernaghan, 2014). Now we are at the stage of data-intensive science - the latest approach to discovering knowledge or extracting value through derivative of technology- Data (Chen et al., 2014; Chen & Zhang, 2014). An increase in data availability and advances in methodology, tools, and technique have bolstered not only the demands but also the capability and capacity for evidence-based policymaking.

Critical important question that informs this paper is: How can government policymakers make more effective evidence-based policy making in a VUCA world? Programs and policies that need to remain relevant in this highly disruptive environment need a different approach with a rapid transformation in many areas of monitoring and evaluation, research, and learning (MERL) capacity. Capacity is believed to contribute directly to enhancing M&E performance; however, experience in gauging the effectiveness of MERL capacity-building interventions is limited.

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M&E's body of knowledge must therefore approach capacity-building interventions with a willingness to test strategies and build a body of theory and practice. While academic and policymaking circles are collaborating to unpack systematic approaches for capacity building and learning initiatives, there is no overarching conceptual model that describes the drivers to design and implement to maximize its success.

This paper describes the approach taken for strengthening monitoring and evaluation (M&E) capacities at various levels of Governance in India undertaken by the Development Monitoring and Evaluation Office (DMEO) of NITI Aayog. The Development Monitoring and Evaluation Office (DMEO) is an attached office of NITI Aayog. As the apex monitoring and evaluation (M&E) office in the country, DMEO aims to support rigorous, data-driven, citizen-centric, and outcomes-driven program management and policy-making. This paper also attempts to identify and articulate constraints in learning and capacity building for M&E and identify strategies for effectively using data-driven policy making in India. The paper further builds a framework for supporting appropriate strategies in capacity building for M&E in the VUCA world.

Background: Environment Analysis and Implication

India has a history of monitoring and evaluating its public expenditure on development schemes and programs. However, the government M&E system in India is marked by a heterogeneity of actors, processes, and skills. At present, the M&E capacities both on the demand side (government departments both at Centre and in States) as well the supply side (academic institutions, consultancy firms, government institutions) are low and fragmented. While a number of initiatives have been taken, it is necessary to create capacities at the level of the individual officers and institutions so that an ecosystem to spur the demand, supply and uptake of monitoring & evaluation emerges. Undertaking capacity building initiatives on M&E amid these diverse needs of the public sector needs a balance of standardization as well as frugal innovation. It also requires thinking how the latest tools and technologies can be leveraged to address the complexity of M&E needs arising from the diverse of contexts in a country like India. Some of these challenges are discussed in the following sections.

Generation and evolution of Data

Telecommunications and advances in cloud computing and storage techniques have boosted Big Data adoption. Big Data provides an opportunity to leverage various sources to identify issues and problems and formulate an efficient and effective policy approach (Williams, 2014). In policy formulation, Big Data can help build 'what if' scenarios to predict possible outcomes (Cook, 2014). More transparent, efficient, and effective allocation of resources can be done by identifying patterns in data. This facilitates a goal-oriented, outputs- and outcomes-focused budgeting process that could appropriately prioritize resources. Data also enables the identification of hidden patterns and pathways to research difficult-to-reach citizens and detect irregularities during implementation (Maciejewski, 2017). Technology's focus in public administration has been improving governance through e-Government and e-Governance (Janssen and Kuk, 2016). Governments can also leverage Big Data to enhance accuracy, efficiency, speed of policy formulation and implementation, and evaluation of such interventions through analytics (Gamage, 2016).

Exogenous Shocks

An exogenous shock is typically an unanticipated event and by definition has a extremely low probability of occurrence. It’s origin is from external environment resulting in consequences which may have existential threat (Taleb 2010). Diverse events such as natural disasters, pathogen transmition , military confilicts can result in exogenous shocks.
Exogenous shocks lead to a lack of predictability, as there are no concrete trends or patterns for a phenomenon, making it difficult to establish what will happen next and base decisions on it. Shocks come from many elements with nonlinear interactions. Shocks can be due to an event that has occurred

in the area. This type of shock is termed a covariant shock. At the same time, there can be a shock that is limited to a household, which is called an idiosyncratic shock. Idiosyncratic risk is unique to an individual asset, while covariant risk impacts a large cohort of people, more often than not, in the same locality (Desai & Chiranjivi, 2021). In monitoring and evaluation, we are concerned about covariant shocks. This requires complex modelling and digital technologies to perform tasks and duties.

The VUCA reality

Unpredictable change and uncertainty are the norm. The above reality has been trendily used as "VUCA: Volatility, Uncertainty, Complexity, and Ambiguity" (Bennett & Lemoine, 2014). Though all the four words have related meaning, it the difference among the four that is valuable to understand to decipher and develop an action plan for capacity building initiatives. "Volatility" is unstable and unexpected environment of possibly unspecified duration (Bennett & Lemoine, 2014). Volatility is not always lack of knowledge but indicates continuous fluctuations (Bennett & Lemoine, 2014) "Uncertainty" is lack of knowledge regrading significance of the situation. Cause and effect might be known, but significance is missing (Bennett & Lemoine, 2014). Complexity refers interrelated variables challenging to manage due to their interdependency and magnitude (Bennett & Lemoine, 2014; Hill, 2013). Finally, ambiguity "unknown of unknown" as there is lack of documented knowledge in the event's cause and effect (Bennett & Lemoine, 2014; Gandhi, 2017).

Table 1 : VUCA Dimensions

Dimension	Description
Volatile	Unstable and unexpected environment of possibly unspecified duration. A relatively unstable change. A situation wherein the information is available but still unpredictable. E.g. – Change in inflation due to global crisis
Uncertain	A lack of knowledge / ability to predict occurrence of an event and its ramifications. Even after knowing the cause and effect, it is difficult to predict consequences of the occurrence of the. E.g., Demonetization
Complex	Interrelated variables challenging to manage due to their interdependency and magnitude. Many interconnected parts forming an elaborate network of information and procedures. Often multiform and convoluted, but not necessarily involving change. E.g., Implementing a complex scheme involving multiple stake holders
Ambiguous	A lack of understanding of cause and effect and most of the times there is no historical precedence to make predictions.

Understanding Capability and Capacity Building

Capacity building can be said as process of supporting individual and institutions in enhancing ability to delvier effectively and efficientcly of what is required of them. Capacity building is enhancing the capability. Capability itself is the potential of achieving. "Capabilities" represent the many functions he or she or organisation collectively can do or potentially achieve. To achieve outcome, there are two important elements, Resources and Agency. Resources and agency together constitute what Sen (1985) refers to as capabilities.

Table 2 : Capability Framework

Variable	Description
Resources	Resource' dimension has to enable agency to be a multiplier effect ensuring a parabolic achievement
Agency	Power within - The knowledge, individual capabilities, and self-belief to make changes, including learning new skills
	Power to - To make decision
	Power Over - access to and control over appropriate financial, physical, and knowledge-based assets to perform the duties

Capacity building has to be looked at as an integrated process / approach rather than a set of few independent interventions. It is a response to the multi-dimensional processes of change, not a set of discrete or pre-packaged technical interventions intended to bring about a pre-defined outcome. "Capacity building" is to enhance agency to anticipate and influence change and make informed, intelligent decisions using data by having access to appropriate tools, techniques, people and ecosystem partnership.

Methodology and Field Research

To understand the challenges and the methodology adopted, an interpretive research methodology was adopted for the purpose and was supported by qualitative interviews. Our research problem has a social context, and many attributes cannot be qualitatively observed or measures and it is important to to understand reality through social construction, shared meaning and being conscious about environment and situation (Remenyi & Pather, 2004; Remenyi & Pather 2004). With an objective to understand incumbunts prespective, ethnography/hermeneutics[2] was used (Harvey & Myers 1995); with complete participative approach (researchers were participants). One author had a immersion of 5 years and other of approximately one year, which enabled to look at the phenomenon through different lenses. A deductive qualitative approaches will be used for analyzing the interview data collected from speaking with key stakeholders at DMEO. In the deductive approach, Amartya Sen's framework (Sen, 1985) augmented by Kabeer's agency model (Kabeer , 1999) was used for coding and deriving the themes.

Approach adopted by DMEO for capacity building

Policy makers require credible, actionable, and timely evidence for assessing the relevance and effectiveness of public expenditure. This requires a supply of highly skilled M&E professionals within the Government system as well as the larger M&E ecosystem, highlighting the need for comprehensive capacity building initiatives based on relevant and suitable competencies, curriculum and pedagogy. Building evaluation capacity is critical for not only evaluation professionals, but for policy makers and evaluation commissioners as well.

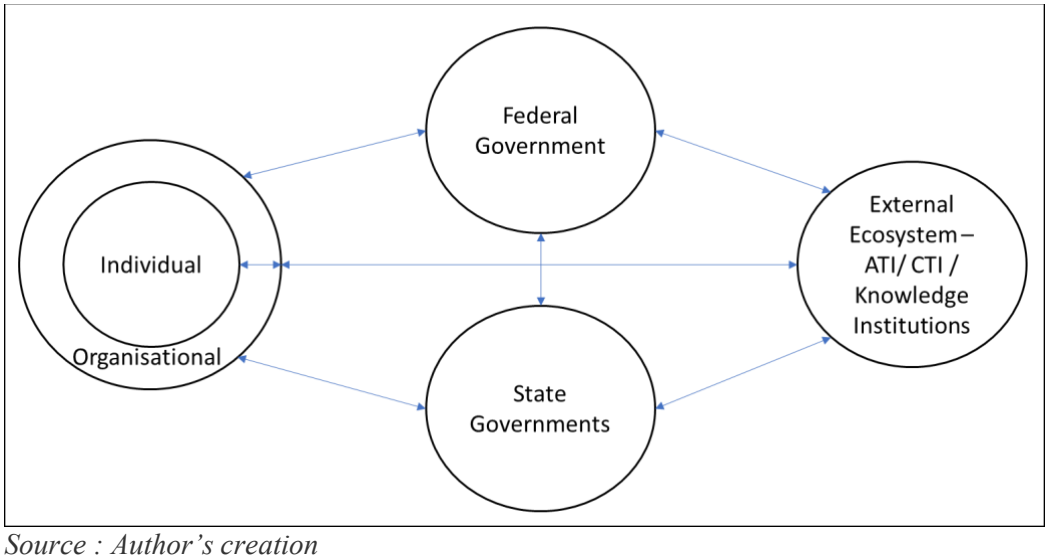
[2] Ethnography is the description of a particular culture in its own terms. It involves the researcher immersing themselves in the language, practices, and values of a particular organization

Table 3 : VUCA requirements and intervention strategies

Environment Dimension	Requirements	Intervention Strategies
Volatile	Agility in approach and methodology of evaluation People -Flexible headcount capacity	**Governance –** – Structure to support quick decision making – Adapting appropriate governance modes aligned to the environment
Uncertain	Leverage data from information – Big data to run what if scenarios Collaborative ecosystem knowledge sharing	**People –** – Develop Data & technology Skills – Develop Qualitative Research skills – Scalable head count capacity – Partnership with knowledge and impact ecosystem
Complex	Technology and data tools / skills to solve the problem Complementary skills set on a team to solve a problem. Access to Domain experts for consultation	**Culture –** – Cohesive team spirit - Problem solving cross functional, multi skills team – Transparency and open communication – Attitude to effectively unlearn and relearn business processes
Ambiguous	Data driven quick Insights Governance - Experimentation	**Information Technology –** – Collaborative, data driven systems for planning, monitoring, and evaluation – Agile process (re)design methods.

To maximise the effectiveness of capacity building initiatives must be structured in way that it enables , knowledge creation and sharing among and between individual, group and organisational learning. The existing knowledge levels must be ascertained , democratized in the organisation and desired knwledged should supplemented by external knowledge sharing interventions. DMEO adopted an inside – out and outside – in approach. Using a structured approach of sessions and knwowdge hub it was democratized , within the organisation and whole of government (State as well as Federal); meanwhile some best practices of the states were documented and shared as literature as well as knowledge sessions amongst the states. Based on a multi-level approach, a roadmap was planned for strengthening M&E capacity within the Government, which begins with understanding the existing capacities, both infrastructure and knowledge, to understand the requirements and skill gaps in the Government.

Figure 1 : 4 Key Stakeholders



Source : Author's creation

These interventions focus on four key stakeholders:

1. Government officials at the Centre level
2. Government officials at the State levels
3. Young & emerging evaluators in the country
4. Internal staff at DMEO

Intervention Strategies Adopted by taken by DMEO

DMEO used 'Theory of Change' as a corner stone for identifying activities required to achieve the desired outcome. TOC can be said as a theory which articulates , how and why an initiative works to achieve a desired impact. (Weiss, 1995). ToC helps us articulate key components of the process that links activities and outcome. TOC helps us understand different components of the process tracing the causal linkages between activities and the desired outcomes and impact, while articulating underlying context and assumptions (Blamey & Mackenzie 2007). The intervention strategies adopted by DMEO was around , knowledge , structure , system and people.

1. **Capacity Building for Internal DMEO staff**

   a) *Need Assessment*: A Training Need Assessment was undertaken to understand the existing competencies, knowledge base, and gaps in understanding of M&E by the DMEO staff. This was carried out through a questionnaire (shared with all team members) and Key Informant Interviews (KIIs) to take note of training requirements of the staff based on their current and potential roles in the organization. Training needs were identified in: Monitoring, Evaluation, Procurement, Data, Software, Soft Skills, and Administrative.

   b) *Brown Bag Sessions*: The objective of Brown Bag sessions is to enhance awareness and knowledge of the staff on the current and latest developments as well as work being done in the field of M&E.

2. **Capacity Building for Government Stakeholders at Centre**

   a) M&E Competency Framework and Curriculum: DMEO has drafted a dedicated M&E curriculum and competency framework for Government Officers in consultation with key knowledge partners such as WFP, UNICEF, J-PAL, Sambodhi, ECOI and the Indian School of Business (Mohali). The Competency Framework for M&E has been developed in alignment with the FRAC (Framework of Roles, Activities and Competencies) under the Mission Karmayogi. A total of 13 Competencies have been identified with each competency having 5 levels. The M&E Curriculum has also been designed to address these competencies and partners for developing these modules have been identified..

   b) Content Creation for iGOT: At the individual level, iGOT (Government Online Training Platform) of DoPT will address these competencies. These modules for M&E are proposed to be developed in collaboration with DMEO's partners, academic and research institutions.

   c) Training for Government Officers: DMEO has initiated trainings focused on outcome monitoring, evaluations and data for development in partnership with central training institutions like LBSNAA for early and mid-career civil servants.

3. **Capacity Building for Government Stakeholders at State level**

   a) *Institutional Assessment of Evaluation Capacities in States/UTs*: DMEO in consultation with evaluation experts from organizations, such as the Bill & Melinda Gates Foundation (BMGF), World Food Programme (WFP), Abdul Latif Jameel Poverty Action Lab (J-PAL) and United Nations Children's Fund (UNICEF), has developed a diagnostic tool to assess the capacity of evaluation systems in States. This tool covers various dimensions including (i) Framework for evaluation in the State (ii) Structure of the evaluation function (iii) System for evaluation

planning (iv) Demand for evaluation in the State (v) Assessment of individual and systemic capacities in the State (vi) Dissemination of evaluation insights. Insights from this exercise will deepen our understanding of the existing capacity for conducting evaluation in States as well as help nudge them towards better performance through sharing of learnings and best practices. A similar exercise is also planned for the Central Ministries/Departments and the monitoring related arrangements in the states/UTs.

b) *Engagement with ATI/CTI Network*: At the institutional level, DMEO plans to work with Central Training Institutions/Administrative Institutions (CTIs/ATIs) to introduce in-service training modules and other training for state/central government departments. A virtual conference was organized by DMEO on November 23, 2021 for apprising institutions about (a) DMEO's approach to Monitoring and Evaluation (M&E) related capacity building (b) recent initiatives with State and Central Government Ministries/Departments for capacity building (c) participation in Training of Trainers course for the faculty of ATIs/CTIs and (d) seeking the views of ATIs/CTIs for hosting M&E training programs as well as assistance required by them for including M&E content as part of their in-service training.

c) *State Webinars*: DMEO regularly organizes webinars and trainings for facilitating knowledge exchange among States/UTs on key sectoral issues pertaining to M&E. Since FY 21-22, regular webinars have been organized including topics based on insights emerging from DMEO's evaluation studies as well as exemplary initiatives being undertaken by states like Karnataka.

d) *Trainings for Government Officers*: Aligned with NITI's mandate of promoting cooperative federalism, DMEO has been engaging with the Planning Departments of States/UTs for capacity building activities. This also entails working closely with State Administrative Training Institutes. Since 2021, trainings have been conducted for several states, including but not limited to Rajasthan, Jammu Kashmir, Maharashtra and Uttarakhand. A pilot training programme was conducted for Senior In-Service Officers (Director & above) of State Planning Departments in collaboration with NILERD and BMGF based on the learning by doing approach.

e) Technical assistance to States for setting up effective M&E systems: Technical assistance have been provided to Government officers in the states of Jammu & Kashmir and Andhra Pradesh for development of Output Outcome Monitoring Framework, setting up of procurement systems etc.

4. **Outreach Activities and Events:** Through monthly State webinars, quarterly DMEO Conversation series and the annual National Conference, DMEO has been facilitating a sustained conversation and knowledge exchange among government and non-government stakeholders around the latest developments in M&E.

5. **Partnerships with Academic Institutions & Think Tanks:** DMEO has been working towards developing a strong monitoring and evaluation (M&E) ecosystem in the country through 20+ synergic partnerships with government stakeholders, multilateral institutions, think tanks, academic institutions and research organizations, private sector, and civil society, among others. It is expected that a network of state-based premier academic & research institutions, ATIs/CTIs supported by International and National Development partners and DMEO will drive the institutionalization of M&E in the States. Each of these partnerships has specific focus areas including building practical M&E resources; developing and augmenting the M&E curriculum; organizing joint courses, workshops, forums, and seminars; conducting evaluation studies and assisting with the management of outsourced evaluations as well as developing technological tools to facilitate data collection, analysis and visualization. Working with institutions in a collaborative approach , DMEO was able to address the needs of project specific short term resources to agument resources for specific project.

6. **M&E Knowledge Resource Base:** DMEO has been building a repository of key resources, both in-house and external, for supporting M&E practitioners. Various guidelines and toolkits have been

developed and made available on the DMEO website (dmeo.gov.in) for practitioners, Government officials and other stakeholders to access tools and knowledge in the M&E domain.

7. **Capacity Building for Government Stakeholders at Centre:** DMEO hired lateral enterants at all level. This enabled bring in alternative perspectives , skills and enabled structured domain knowledge transfer from private sectors to government. This was of immense value to get access to technology and big data skills , which is often rarely found in government. This had a collateral benefit on culture. DMEO was able to blend agility , transparency and open communication of private sector processes with whole of government and inclusivity approach of a government institution.
8. **Matrix Structure :** While the organization was structured broadly around Monitoring and Evaluation verticles and around cluster of relevant ministeries ; there were product and HR areas which had matrix teams. For e.g Data , Technology , Outcome Output Monitoring framework , Capacity building . Matrix team was a cross functional , cross organization team which had resources allocation from various verticles. This approach , ensured firstly capacity of people with complementray skills sets ; secondly it helped break the silos of working and lastly it helped democreatize kwowledge which not only provided learning opportunity to the staff but also enabled DMEO to build bench capacity.
9. **Technology and Tools :** Keeping in pace with requirements of the environmental requirement , specific initiatives around Technology and Innovation was undertaken. Known as TIME Labs (Technology and Innovation for Monitoring and Evaluation) , the matrix worked on building infrastructure , technology tools and data sets for application (e.g GIS tools , Night light data analysis , mobility data). The TIME labs , not only build the tools but assisted in building capacity and institutionlising big data driven application for M&E.
10. **Inclusive Decision Making :** Institutionlising a weekly senior team meeting , which cut across all matrix , vertical heads and chaired by Director general , DMEO along with various deputy director general and Joint secteray helped in open and transperatent communication. It also assisted in collective , agile decision making . This approach helped in enhancing experimentation but had a mechanism to protect blindside of an untested initiative.

Thematic framework of initiatives and implication

Each of the areas had an impact on resources and/ or agency . Some of the intervention such as lateral hiring had an impact on more than two thematic areas. Below is summary of above linking to framework.

Table 4 : Thematic Framework of Initiatives and Implication

		Impact	
Dimension	**Intervention**	**Resources**	**Agencies**
Governance	– Structuring STM meeting – Matrix Structure Lateral entrant at Leadership level	Appropriate Organisation Structure Governance – Experimentation Agile decision making in Leadership	Agile decision making in Leadership
People	Lateral entrant at all levels Knowledge sessions Capacity Building sessions- Internal , Center and State Resource access via Knowledge institutions	Scalable head count capacity Ability of individual to imbibe cross functional cross cultural team effectively	Ability of individual to imbibe cross functional cross cultural team effectively

Culture	Matrix Team Continuous need assessment and capacity building Collaborative Federal – state structure by formation of State Matrix to link up all states Industry Interaction and collaborative initiatives Lateral Hiring State Webinar	Cross Functional multi-skills team Access to kwnledge economy Learning Culture	Learning Culture
Information Technology	Capacity building in data analytics Identifying and investing in home grown Open source technologies Structuring TIME Labs (Technology and Innovation in Monitoring and Evaluation) Hiriing lateral entrants with specific technology and quantitative analytics skills set.	Data Systems Agile technology driven process	Skills to use Data and analytics Data & technology Skills Qualitative Research skills

Conclusion

In this paper, we explore intersection of VUCA environment with Capacity Building for Monitoring and Evaluation. Although VUCA is extensively covered in other disciplines, the literature in scant in the area of capacity building for monitoring and evaluation. Exogenous shocks can disrupt context, strategy, and processes; therefore it is are highly relevant from a capacity building perspective.

Capacity building in M&E represents next evolution of the evaluation profession and, can transform the field. It enables more people to learn about the value of professional evaluation practice, and contribute to actual development.

For evaluation to be transformational and in turn transform the approach to development , capacity building must be structured, and sustainable. Based on Ethnography/hermeneutics approach, this paper brings together, experience, knowledge and learning about capacity building in an unified approach.

The paper enables (a) practitioners to provide a set of initiatives to design and implement capacity building for monitoring and evaluation to achieve effective outcomes (b) to assist researchers to use a framework and set of variables that can be studied to build empirical evidence on impact of each initiative towards effectiveness of capacity building in VUCA world. The paper provides a foundational edifice for practitioners and researcher to explore area of capacity building in Monitoring and Evaluation. There are many questions still to be answered; given the impact it can produce, we believe it is a time worth invested.

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