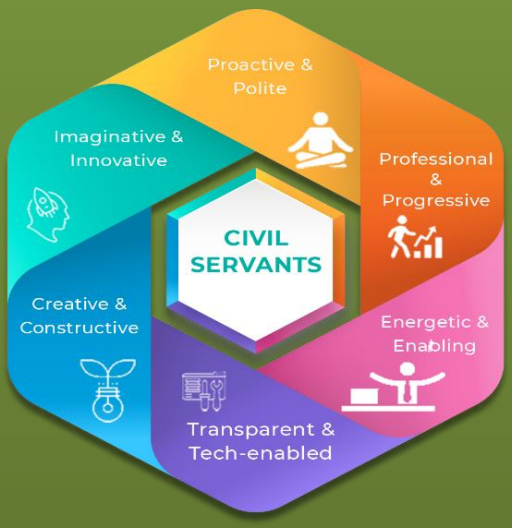
कार्मिक एवं प्रशिक्षण विभाग
DEPARTMENT OF
PERSONNEL & TRAINING
सत्यमेव जयते

iGOT
Integrated Government Online Training

The Framework of Roles, Activities, and Competencies (FRAC) and everything else of FRACing

Part 1: Background and preparation



DRAFT

NOVEMBER 2020

Table of Contents

Acknowledgements

List of Boxes, Tables and Figures

List of Appendices

Abbreviations and Acronyms

AI	artificial intelligence
ASK	attitudes, skills and knowledge
BDF	behavioural, domain and functional
CBC	Capacity Building Commission
CBPs	competency building products
C-CS	CBP competency score
CS	competency score
CML	competency mark-up language
CODs	competency-owning departments
CP	Competency Passbook
CSPs	Certified Service Providers
CTIs	Central Training Institutes
DFT	departmental FRACing team
DoPT	Department of Personnel Training
FPA	functional purpose analysis
FRAC	Framework of Roles, Activities and Competencies
IFU	internal FRACing unit
iGOT	Integrated Government Online Training
ISTM	Institute of Secretariat Training and Management
MDOs	ministries, departments and organisations
ML	machine learning
MMO	means, motive and opportunity
NLP	natural language processing
NTP	National Training Policy
PIAAs	proctored, independent, authorised assessments
SaaS	software-as-a-service
SCSR	State of Civil Services Report
SPV	Special Purpose Vehicle
SSC	Staff Selection Committee
STIs	State Training Institutes
TCS	testing competency score
UPSC	Union Public Service Commission
WPCAS	workplace competency assessment score

Summary

This document provides an overview of the guiding principles, a common vocabulary and a set of steps to complete the pre-FRACing process[1]. The Framework of Roles, Activities and Competencies (FRAC), as termed within Mission Karmayogi's Integrated Government Online Training platform (iGOT) initiative, is the mapping of three constructs (roles, activities and competencies, supported by knowledge resources) for each individual position within all government ministries, departments and organisations (MDOs) at the national, state and local level[2]. Through the example of Shanti, this document provides for all the stakeholders involved a common understanding of the key terms, details of the steps to follow prior to FRACing, its linkages to the iGOT learning hub and the analytics that the platform can make available in order to improve the execution capacity of the Indian state.

Identifying competencies is a diligent task that requires following a certain methodology to ensure the output is coherent and meets the purpose of the activity. As part of the upgrade to iGOT Karmayogi, it is proposed that every MDO is able to 'FRAC' its positions, roles, activities and competencies. Directories and dictionaries must be developed, of all participating stakeholders and of the numerous positions, roles, activities and competencies, respectively.

One of the key objectives of this entire process is to test the competencies of officials and use the iGOT learning hub to close the competency gaps among them in a timely and efficient manner. The learning hub will have to have unique features in order to do so. Given the pace of change in the way work is organised, often due to technological advancements, it is imperative for governments to constantly take stock of their ability to manage themselves. The data and analytics generated through this process will be available for MDOs to benchmark their human resources outcomes on the platform, and improve their ability to reduce the competency gaps of their officials.

By utilising artificial intelligence (AI) and machine learning (ML), the platform can also spot duplicates in the data and suggest new entries in the directories and dictionaries. AI and ML will also be able to suggest courses based on expressed career goals as well as an individual's learning journey thus far.

This Framework is ever-evolving, capturing new competency needs as and when they arise. The pre-FRACing steps (Section 5) as well as the process of FRACing itself (covered in Part 2) iterates that FRACing should be seen as an ongoing process that enables MDOs to build an accurate picture of their interrelationships as well as the full list of positions, roles, activities, competencies and knowledge resources relevant to them.

Establishing a clear theory of change, limiting the problem and solution set, initiating continuous sensitising and handholding, building a core group of reform champions, as well as a network of world-class universities, institutions and individuals, will be required to ensure the success of this endeavour.

[1] In this instance, the act of denominalisation (i.e. converting a noun into a verb) re-emphasises the fact that FRACing is an ever-evolving process. It needs to capture new competency needs as and when they arise, linking it to activities, roles and positions. The verbing of FRAC (i.e. FRACing) essentially validates the evolving and dynamic nature of the Framework.

[2] Details of building and rolling out of the platform, including the content strategy, delivery mechanisms, rollout stages and other related matters, are beyond the scope of this document. These details will be covered in subsequent publications at suitable points in time.

Introduction

FRAC, or the Framework of Roles, Activities and Competencies as its name denotes, demystifies the roles, activities and competencies a person is required to have so as to effectively deliver on the outcomes expected from them with respect to their current and future positions in government. In doing so, it makes it possible to establish arrangements to test the extent to which a person occupying a position has these competencies and consequently the competency gaps, if any, that should be addressed. On the one hand, this acts as an effective signal to the effort that individual officials and their managers should be putting in to build competent teams; on the other, it lays bare the opportunities available to entities that have the capability to offer competency building products (CBPs). The latter is accomplished by solving the information asymmetry that plagues the market for quality CBPs[3].

iGOT Karmayogi gives shape to the mandate of the 2012 National Training Policy (NTP) to use e-learning technologies to cover the training needs of a large number of officials who currently have little or no access to opportunities for quality training. Distance and e-learning provides "unparalleled opportunities for meeting the training needs of the large number of civil servants dispersed across the State in different cities, towns and villages" (NTP, 2012, p. 32). The NTP also talks of the need to match the competencies of the officer with those required for his/her role – "...essential to match the individual's competencies with the jobs they have to do and bridge their competency gaps" (p. 2).

The iGOT Karmayogi platform is thus envisaged as a democratised, competency-driven solutioning space that all of government can access to enhance government execution capabilities. It makes possible the use of all aspects of the 70-20-10 model of learning and development[4] (Lombardo and Eichinger, 1996). The platform allows the government to break silos and harness the full potential of government officials for solutioning rather than simply depending on the knowledge and skills of an individual official. It does so by providing resources across five hubs (detailed descriptions in Section 2) – accessible to every government official even before their MDO has onboarded onto the platform using their NIC-allocated email ID:

1. **Competency hub:** detailing the roles, activities, competencies and knowledge resources for every position.
2. **Learning hub:** facilitating competency building through suitable courses, assessments and learning recommendations (i.e. CBPs).
3. **Career hub:** enabling the government to solve the complex problem of encouraging lifelong learning, and finding the right person for the right job.
4. **Discussion hub:** providing officials with an opportunity to benefit from insights from previous discussions and to trigger new conversations around particular queries they may have.
5. **Network hub:** enabling officials to discover others in the government who, given past experiences, recognised competencies, and contribution to

[3] In doing so, the expectation is that the iGOT platform will help to develop an efficient market for CBPs – one in which government training institutions, universities, research institutions, private providers, as well as retired and serving officials can offer their products that will be assessed for their impact in the workplace.

[4] The 70-20-10 model is based on the principle that: 70% of learning comes from experience, experiment and reflection; 20% is derived from working with others; and 10% comes from formal intervention and planned learning solutions.

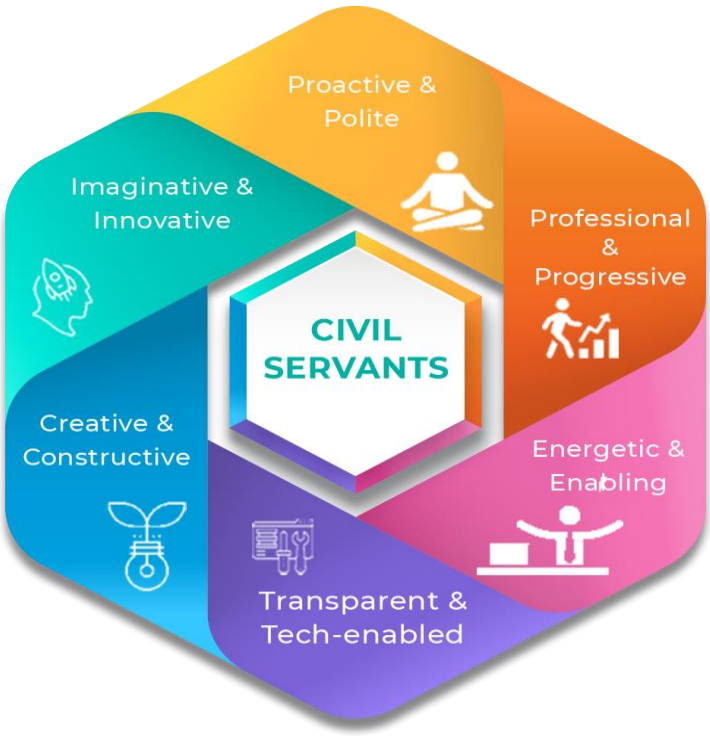
previous discussions on the platform, may be in a position to help solve a problem.

For multiple reasons, governments in India often require their officials to take on responsibilities for which they do not have prior experience or knowledge. As tasks become more complex and citizen expectations go up, it is important that governments are able to improve their ability to reduce the competency gaps of their officials in relation to the roles and activities they are required to perform. In order to meet the challenges of the 21st century, the civil servant of today is envisioned to be as shown in Figure 1 below.

Given the pace of change in the way work is organised, often due to technological changes and sometimes due to unforeseen events (such as the recent COVID19 pandemic), it is imperative for governments to constantly take stock of their ability to manage themselves. FRACing will help them do so.

As competencies are at the core of this solutioning space, this document will primarily examine the competency hub within which the process of FRACing resides. Using the example of the official Shanti, Section 1 defines the process of FRACing, covering what it can potentially offer and what it aims to accomplish. Section 2 provides a brief overview of how the iGOT platform is envisioned and how FRACing is at its core. Delving deeper, Section 3 takes a systems view of iGOT Karmayogi, outlining how various kinds of assessment can be used to generate a nuanced understanding of users as well as the many analytics the platform will provide. Section 4 details the directories and dictionaries of iGOT Karmayogi that culminate into a registry, explaining why their interrelationship is the end product of the FRACing process. Finally, Section 5 covers the pre-FRACing steps Part 2, which is a companion document, will cover the FRACing process in detail.

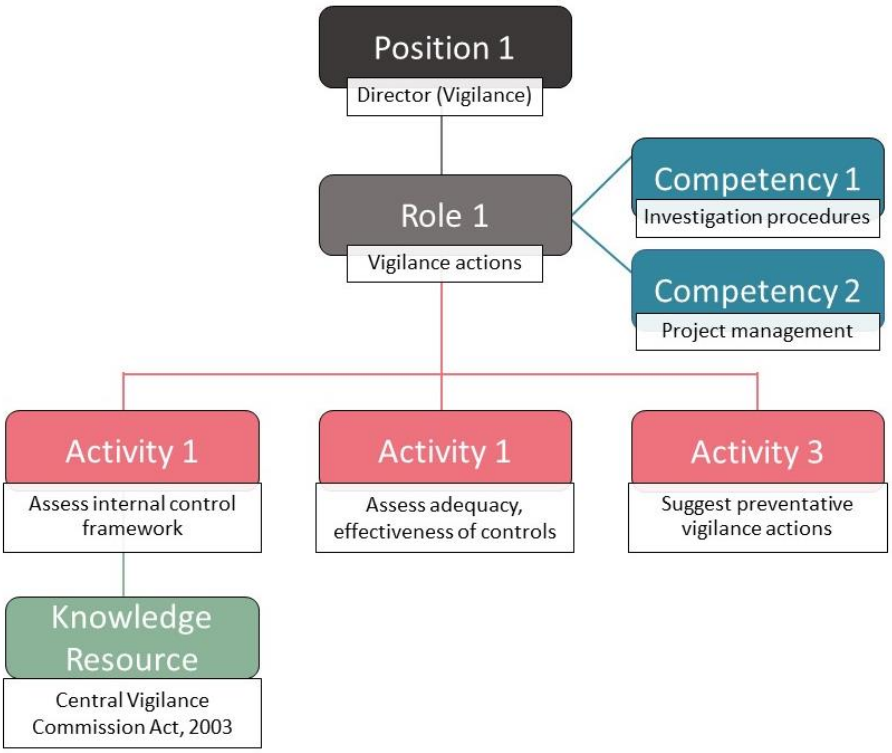
FIGURE 1. The 21st century civil servant



Shanti has just been posted as a Director in the Department of Personnel Training (DoPT), Government of India. The work allocation has been issued with the approval of the Secretary of DoPT. Shanti has been designated as the Director (Vigilance)[5]. Having moved from an entirely different department, she now needs to figure out what her new position entails. As Director, Shanti has many roles to perform, each of which involves many activities which, in turn, require many competencies (behavioural, domain, functional or BDF). How will she identify the various roles, activities, competencies and knowledge resources required for this position? How will she identify her own competencies? How will she make up for the gaps in her competencies? Where will she go to get clear answers to these questions?

The FRACing process (that will begin with creating dictionaries of positions, roles and activities, and documenting their linkage to competencies) enables government MDOs to build an accurate picture of the relationships and the full list of positions, roles, activities, competencies and knowledge resources relevant to them. Most importantly, however, it also enables officials like Shanti to understand the competencies required and how they can acquire them (as shown in Figure 2 below).

FIGURE 2. What FRACing tries to capture



Adapted from DoPT (2020).

[5] In the dictionary of positions, there is a base definition of Director (Vigilance). However, depending on who is occupying that position, depending on the competencies and effectiveness of that person, the HoD may choose to assign some of the roles of Director (Vigilance) to people holding other positions in that MDO.

By FRACing and obtaining the details shown above, the process allows for the position to evolve so that it better serves the interests of both the government and the citizens.

Benefits to the various stakeholders include:

- **Governments**, who will be able to better communicate to officials what its expectations are from holders of each position, the roles and activities that they will be called upon to perform and the competencies (BDF) they will need to have to be able to successfully execute against these roles and activities.
- **Managers and their team members**, who will be able to get a better sense of each other's competencies. This is possible on iGOT because of the micro-question arrangements that will be in place to drive the 360-degree assessments as well as the authorised independent assessment centres it will offer[6].
- **Government officials**, **like Shanti** who will take responsibility for their own career development because of the newfound clarity around competencies required for each position, and access to the most impactful CBPs through iGOT – irrespective of whether they have the approval of their manager, and whether their MDO has onboarded onto the platform[7].
- **Providers of CBPs** (such as Central and State Training Institutions (CTIs, STIs), amongst others), who will be able to achieve excellence by getting a better sense of the nature and demand for CBPs, and the impact their alumni are having in the workplace – the correlation may be spurious, we may never know!
- **Providers of CBPs,** who will be rewarded for excellence through better volumes (impact scores will be assigned to all CBPs on iGOT – see Table 3 for more information on scores).

What this means is that when every MDO completes both its pre-FRACing as well as full-fledged FRACing process and produces its own Figure 2 for all positions, it will directly benefit all stakeholders detailed above.

FRACing cannot be a one-time process. It has to be continuously updated so as to reflect the constant changes that occur when new work allocation orders are issued by re-tagging roles and activities with positions. Although most of the heavy lifting on FRACing will be done once every three years[8] (see Part 2 – the companion document – for detailed steps), the internal FRACing unit (IFU) will have to ensure that each time a new work distribution order is issued and/or the roles and activities associated with a position are tweaked, or when a recruitment notice is put out or indent placed to a recruitment agency like the Staff Selection Commission (SSC) or the Public Service Commission, *it is always done via the relevant workflow on iGOT*. This will be possible only when an enforceable government order is

[6] Each competency on iGOT will be assigned by DoPT to a GoI department to be its owner. Competency-owning departments (CODs) will have the responsibility to ensure the following with regards to each of the competencies assigned to them: 1) High impact CBPs are available on iGOT. They can do this by developing CBPs themselves or through their training institutions or by fixing the price that providers can charge for CBPs that build competencies assigned to them; 2) Proctored, independent, authorised assessment (PIAA) capacity is available with a waiting time of less than 24 hours; and 3) Question banks, used for 360 degree assessments on iGOT and PIAA, yield results that are valid and reliable. The quality of these three will be ensured through quarterly score carding by iGOT's Special Purpose Vehicle (SPV) of all competency-owning departments, the results from which will be used on the PM dashboard and published in the annual State of Civil Services Report (SCSR).

[7] These CBPs can be accessed at their own cost until their MDO has tagged competencies to roles linked to their position (i.e. through the preparatory FRACing steps or the FRACing process itself).

[8] Although an ongoing process, FRACing in its entirety must be repeated every fourth year (i.e. within the first quarter of the fourth year) or whenever there is a change in government – whichever is earlier.

issued that requires this. Only then will iGOT continue to remain functional and relevant by being the single source of truth for each position, and the linkage between each position and the roles, activities, competencies and knowledge resources related to it.

Defining Positions, Roles, Activities, Knowledge Resources and Competencies

In order to be able to FRAC successfully, a basic understanding of positions, roles, activities, knowledge resources and competencies must be established.

A **position** is defined as the place in which an individual is located in an organisation, entrusted with a set of roles and activities to be carried out. **Roles** are a coherent set of activities that are usually sequential and carried out to achieve an objective or milestone. Every individual **activity** within a role is thus an action taken to contribute towards this objective/ milestone. **Knowledge resources** are artefacts (documents, software, etc.) provided by the MDO for an individual to perform a certain activity (e.g. standard operating procedures (SOPs), manual of procedures, policy manual, legal policies (i.e. Acts), software such as SPARROW, etc.). Finally, **competencies** can be defined as a combination of attitudes, skills and knowledge (ASK) that enable an individual to perform a task or activity successfully in a given job. There are three distinct types of competencies – behavioural, domain and functional (BDF).

Typologies of competencies

Behavioural competencies are a set of benchmarked behaviours that have been observed among a range of high performers. These capture competencies displayed (or observed/ felt) by these individuals across a range of positions, roles and activities within the MDO. These competencies also describe the key values and strengths that help an official perform effectively in a range of roles. Collectively, they can help an MDO plan their talent requirements. For her new position as Director (Vigilance), for example, Shanti may be required to have problem solving, decision making and leading others as core behavioural competencies.

Domain competencies are shared by a 'family' of related positions that have common roles and activities, and form a logical career path. These competencies are defined for a specific MDO (for example, the Ministry of Personnel or the Department of Biotechnology). Domain competency requirements may be concentrated in one specific MDO but that does not mean that others will not need them. While the Department of Personnel will require Shanti to display competence in vigilance planning, the Ministry of Health or Ministry of Human Resource Management may also require their Director (Training) to have the same competency.

Finally, **functional competencies** are common among many domains, cutting across MDOs, as well as roles and activities. For example, project management, budgeting, communication etc. are required for many roles across many MDOs.

Although they may use slightly different terminology, others have used carefully researched and developed their understanding of competencies to improve their working. For example, the United Nations has listed eight core and five managerial competencies (UN, 2020); IAEA has four core and 11 functional competencies (IAEA, n.d.); OECD has 15 core and technical competencies (OECD, 2014); and the NeGD, Ministry of Electronics and Technology, Government of India has developed a set of e-governance competencies (NeGD, 2014). We anticipate that our understanding of competencies will both build on these existing frameworks as well as contribute to the body of literature.

Section 2 Why is FRACing at the core of iGOT Karmayogi?

The iGOT Karmayogi platform is envisaged as a solutioning space with five hubs (see Figure 3 for Shanti's journey through the iGOT Karmayogi platform and Figure 4 for a diagrammatic version of the same):

1. **A competency hub**, which will essentially be a repository of roles, activities, competencies and knowledge resources for each position in the government, thereby improving the understanding of what it will take for officials like Shanti to pursue a career path of their choice and do well in the current position. The hub will:
   a) Enable Shanti to recognise her competency gaps and close them;
   b) Enable her to credibly signal the extent to which her competencies match the requirements for existing and future vacancies;
   c) Enable her to take charge of her life goals with respect to attitudes, skills and knowledge (ASK) acquisition;
   d) Enable HR managers to identify large-scale gaps in competencies and take corrective action by onboarding suitable CBPs and encouraging officials like Shanti to pursue them; and
   e) Enable MDOs to identify new competencies that may be required to meet emerging departmental goals as and when they emerge[9].
2. **A learning hub**, which will facilitate competency building by providing a 'marketplace' for CBPs. These CBPs could be courses, workshops, learning events, training programs or other services or products that enable an individual to address the competency

BOX 1. Onboarding course for CBP providers

While minimal friction for onboarding CBPs guides the design of the platform, there needs to be a feature for flagging inappropriate content to the MDO that is the owner for each competency (i.e. COD). AI should also be used for this as should periodic auditing of content that has been flagged as inappropriate through crowdsourcing. If a CBP relates to more than one competency and these relate to more than one MDO, then the MDO that has the largest number of related competencies will be responsible and they will have to be notified. A standardised workflow for the review process needs to be developed on iGOT that flags a CBP following which a number of actions such as temporary suspension of the CBP, of a content provider or their permanent removal can be done after following due process as envisaged in the workflow. 'Smell tests' will need to be developed for a CBP which could be used as a self-certification checklist. Explanatory videos that CBP providers can view before submitting the checklist will be very useful. How do we get all of this done?

One way to do this is to create a course on iGOT Karmayogi which CBP providers will be required to complete and get certified as soon as they register. This course could cover the guidelines, terms and conditions. This way we can make sure that they understand the rules, principles and values of the platform.

[9] This will happen because as new activities are identified and assigned to existing or new positions, the distribution of work order will get modified. Since this can be done only on the iGOT platform and this requires linking of competencies to the new activity, the IFU will be forced to define new competencies that will immediately show up in the iGOT Karmayogi learning hub.

gap. These can be delivered digitally, face-to-face, blended or in any new form that may emerge. The providers of these CBPs could be: government organisations such as CTIs, STIs; academic organisations such as universities, research institutes; not-for-profit and for-profit agencies such as ed-tech companies, NGOs, philanthropies; and individuals such as retired officials, celebrity coaches etc. (see Appendix 1 for a proposed approval and pricing plan for different types of CBP providers). Every single CBP will be tied to (i.e. tagged to) one or more competencies as declared by the provider. It will be against these declarations made by the providers that the impact on the workplace of those who have completed a CBP and been certified for it will be assessed[10]. These competency assessments at the workplace will be used to build the impact score of a CBP. It is therefore of great importance that declarations by CBP providers are appropriate and workplace assessments of competencies are both reliable and valid. CBPs can be made available for consumption by government officials without having to go through a complicated procurement process that often compromises quality in the name of low cost.

3. **A career hub**, which will enable the government to solve the complex problem of encouraging lifelong learning, and finding the right person for the right job. The hub will:
    a) Enable individual officials like Shanti to understand the extent to which different positions in the government match their current competencies and their future competency acquisition plan; and
    b) Help HR decision makers in the government identify officials who have matching competencies for vacancies they are looking to fill.
4. **A discussion hub**, which will provide Shanti with an opportunity to benefit from insights from previous discussions and to trigger new conversations around particular queries she may have.
5. **A network hub** that will enable Shanti to discover others in the government who, given past experiences, recognised competencies and contribution to previous discussions on the platform, may be in a position to help her solve a problem.

As previously mentioned, all five hubs will be accessible to Shanti whether or not her MDO has onboarded onto the platform (see Figure 3 for Shanti's journey through the iGOT Karmayogi platform). These unique features imply that the iGOT learning hub will need to have:

1. The best of what India and the world has to offer in one place.
2. The ability to aggregate individual and departmental requirements so the buying power of government can be optimally deployed.

[10] CBP providers should take extreme care to ensure that their products are tagged to the correct competencies (using the competency dictionary on the iGOT Karmayogi platform). In case there is no competency in the competency dictionary that covers their CBP, CBP providers will be able to add to the dictionary themselves (see 'Pre-FRACing steps for CBP providers' in Section 5 for instructions on how to do so). Inappropriate tagging could result in their CBP ending up with a low impact score despite being impactful. This is because the iGOT Karmayogi platform will calculate the impact score based on the PIAA score, C-CS, and the 360-degree workplace competency assessment score (WPCAS) of the competency that was tagged by the CBP provider. However, when there is a pattern that the AI engine is able to recognise – showing that competencies *other* than those tagged by the CBP provider are showing a positive/negative impact consequent upon certification by a CBP provider – the provider will be informed of the same. This fact will also be surfaced to the SPV for suitable analysis.

3. Low barriers to entry so that certain CBP providers (private providers whom MDOs have either sourced or negotiated with, or in-service officials) can offer their resources after self-certification using the content quality toolkit on the platform. Other than these, all other types of CBP providers (see Appendix 1 for a list) will need to be registered with and approved by the Competency Building Commission (CBC) before they can onboard content. Clear criteria will be set by the CBC that CBP providers must meet, after which they are free to onboard content[11]. They can then showcase the impact that their offerings have had on the workplace assessment of participating officials and the price point they are willing to offer it for[12].
4. The power to solve for the information asymmetry that exists in markets for CBPs by surfacing the workplace impacts of each resource, module, course and program.

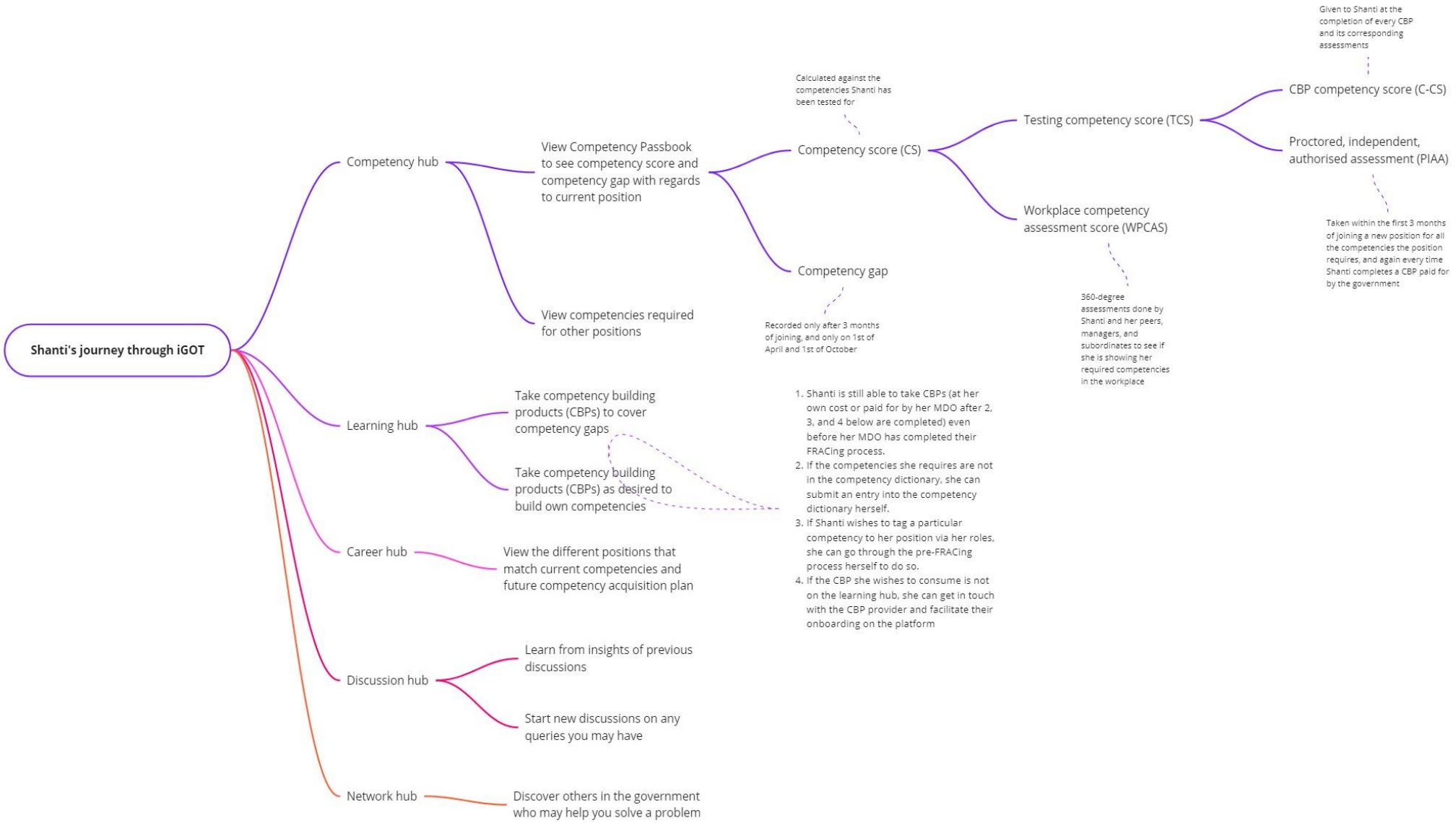
In a traditional setup, feedback given by participants on the completion of a CBP, such as a course or a workshop, is what drives its ratings. This overlooks the impact a CBP may or may not have on the participant's competencies once they apply the ASK acquired following the completion of a CBP. The iGOT platform solves this by assigning impact scores to CBPs by looking at the improvement in competencies as assessed at the workplace and through independent testing.

This is why FRACing is at the core of the iGOT Karmayogi platform. It identifies competency requirements and matches them to high impact CBPs. It suggests adjacent CBPs which help to build the next level of competency and displays what others similarly placed are consuming.

[11] All CBP providers should be asked to renew their status as an approved provider every five years.

[12] Despite low entry barriers, quality will not be compromised. Periodic audit by the quality team will be encouraged, as well as crowd sourcing of inappropriate, poor quality content and instances of false certification. The consequences of any of the above will be quite costly for the provider because it will have a direct impact on trust score of the provider. Once the trust score falls below a certain threshold their uploading privileges will be restricted and will require prior quality audit by the iGOT SPV quality team.

FIGURE 3. Shanti's journey through the iGOT Karmayogi platform

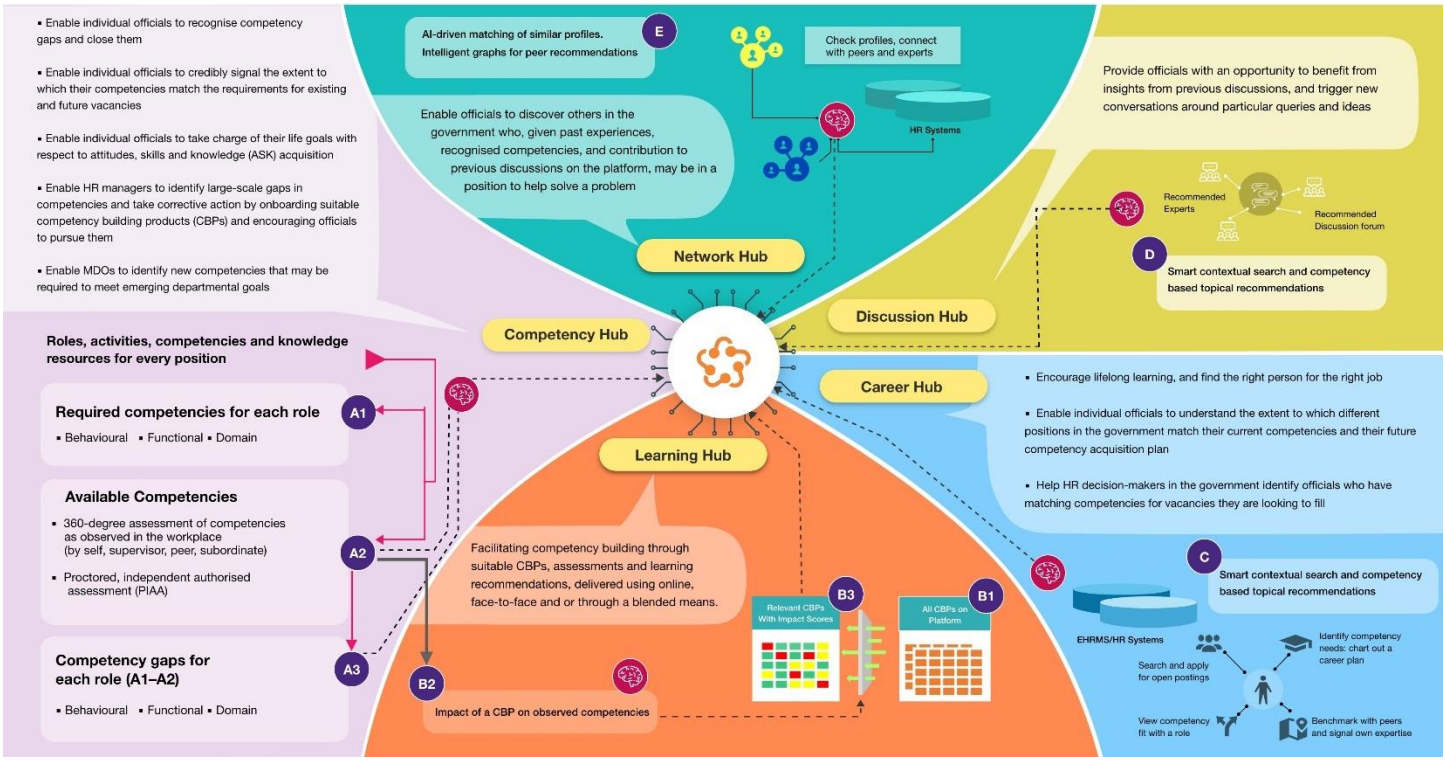


Section 3 Systems View of iGOT Karmayogi

This section provides a systems view of iGOT Karmayogi and the manner in which proctored, independent, authorised assessments (PIAAs), as well as micro-question based continuous assessments, can generate a nuanced picture of users. It also details the kind of analytics that will be available for users whose competencies are being assessed, for those who are providing CBPs and for HR managers.

As described above and envisioned in Figure 4 below, the iGOT Karmayogi platform consists of five hubs: competency hub, learning hub, career hub, discussion hub, and network hub.

FIGURE 4. iGOT Karmayogi as a solutioning space



Analytics from iGoT

The interaction between users and CBPs will produce analytics that can be useful to individual officers, managers and CBP providers. An example is that of data on the educational qualifications of users on iGOT. When a large number of data points on this is matched with:

a) roles that people with a particular qualification or a combination of qualifications have, and
b) the competencies associated with each role and the CBPs that each person with these qualifications have completed,

it is possible that the iGOT platform finds a statistically significant relationship showing that those certified by Annamalai University do better than those certified by the Harvard Kennedy School in the competency Macroeconomic Forecasting (provided they have a Masters in Economics from the Delhi School of Economics). The platform could also find, as would be expected, that a certification in macroeconomic forecasting does not have any relationship with improvements in the competency behind drafting of cabinet notes.

This is only one example. Several other insights may also emerge as the number of users grow and details about them and the CBPs they complete get richer[13].

Analytics in service of officials and their managers

As shown in Figure 4, A1 is the part of iGOT that outlines the competencies required for each role, A2 is the part that deals with the assessment of existing competencies of individual officials, and A3 is the part that delineates the competency gaps of individual officials vis-à-vis the roles they are currently required to perform (A1 minus A2).

With regards to A2, these assessments are sought to be accomplished in two ways. The first is through the cumulation of assessments made by those who observe each other's competencies and one's own self-assessment (360-degree). The second is the independent assessor arrangements that the owner department for each competency will put in place and notify on iGOT Karmayogi. While the latter will typically use computerised proctored, independent, authorised assessments (PIAAs), the former will require a set of micro-questions to be posed and answered that have the ability to capture all aspects of each competency. These micro-questions, which will be in yes/no and multiple-choice formats, will be periodically posed to officials both as part of their peer and self-assessment. Both will contribute to the competency score (CS) of an official (see Figure 7 for an illustration and Table 3 for a detailed description of the score).

The algorithms that build these competency scores will improve over time as it receives more anonymous data and therefore more scenarios and relationships to analyse and the same is ground truthed. These insights, when used appropriately to generate organisation scores on the PM dashboard[14] and when published annually in the State of Civil Services Report (SCSR)[15], are expected to trigger substantial improvements in the way in which

[13] This data will only be available with usage and will only be shared with appropriate groups (with appropriate data protection and anonymisation mechanisms in place).

[14] The PM dashboard is envisioned to be an all-encompassing view of progress made by all MDOs with respect to Mission Karmayogi. It will capture key performance indicators (KPIs) across certain predefined thematic areas and display them in a way that will promote engagement on the platform – such that it advances the goal of making it possible for officials to perform well in each of the roles required by their respective positions. Various indicators are then clubbed together with differential weights so as to produce a ranking of all MDOs with respect to their human resource development practices.

[15] The annual State of Civil Services Report (SCSR) will be a consolidated performance review of the civil services as a whole with a focus on achievements and contribution to national progress.

human resources are developed and deployed in government. At this point it is important to acknowledge that, although all of this can be expected to result in improvements in the means at the disposal of individual officials like Shanti, it is only when means, motive and opportunity (MMO) co-occur that one can expect the implementation capacity of the state to improve. Improvements in motivation will require reforms in the annual appraisal process as well as ways to foster intrinsic motivation; improvements in opportunities will require reforms in business process and expenditure architecture.

The following are therefore the salient points to kept in mind while trying to get a good understanding of the competencies of users:

- The micro-questions will need to capture all the nuances of a competency and will have yes/no and multiple-choice answers.
- The PIAA will need to use question banks that produce assessments that are both valid and reliable.
- The micro-questions will have to be periodically canvassed but in a way that it does not impose a load on officials.
- The responses need to be analysed with the help of AI and ML after taking into account the trust scores of those responding to produce a valid and reliable macro picture of the competencies of each of the users on iGOT Karmayogi as well as the impact score of the CBPs they have taken.
- The appropriate mechanisms for administering these questions (paper, email, surveys or a workflow on iGOT) will have to be worked out through an analysis of the user interface and their experience so as to reduce the friction for those who are called upon to provide answers to the micro-questions.
- The entire exercise will need to be sensitively carried out and the results used carefully.

An example of a set of micro-questions, answers to which should be able to produce a macro picture on a competency related to organising a meeting, could be:

- Was the agenda circulated in advance of the meeting?
- Did the agenda have notes that clearly described the background and the decision being sought?
- Did the agenda contribute to a successful outcome of the meeting?

Another example of a set of micro-questions on a competency related to presiding over a meeting could be:

- Did all those who could make a contribution to the meeting get a chance to share their views?
- Were contrasting/dissenting opinions/suggestions listened to with respect and noted for follow up/decision?
- Were the conclusions reached clear to you?
- Were the minutes of the meeting circulated within a week?
- Did the minutes capture all the decisions taken?
- Did the minutes clarify who had to do what by when?

From the above it is clear that the micro-questions associated with each competency will have to be built from a good understanding of the description of that competency in the competency dictionary. The same will be true for the PIAAs as well. The responsibility for building the question banks for both the micro-question as well as the PIAAs is of the GoI department which has been notified by the DoPT as the owner of each competency (i.e. the COD).

In the case of domain competencies, the question of which department is the best owner will be quite clear. In the case of functional competencies that are nothing but domain competencies which have wide inter-departmental utility will need to be assigned to a department. In the case of behavioural competencies which will be required by almost all departments, the DoPT seems to be the natural owner.

Taken together, the above insights are expected to provide users, managers and providers of CBPs a nuanced understanding of where each of them stands vis-à-vis their expectation about themselves and what others expect of them.

Analytics in service of HR managers

As the person who is responsible for the competency owned by their MDO, HR managers will be tasked with ensuring that CBPs of adequate quantity and quality for their owned competencies are available on the iGOT learning hub. The platform will provide them with the information on which competencies are not adequately covered or are poorly covered by CBPs, thus enabling them to fill these gaps. HR managers are also responsible for onboarding PIAA providers. Most importantly, however, the platform allows HR managers to observe the competency gaps that exist in their MDO and rectify the problem.

With regards to the hiring process, HR managers will also get analytics on the quality of recruitment of their own recruitment activities, of others that recruit on their behalf such as the Union Public Service Commission (UPSC) or the SSC, and even of external manpower agencies they have retained for recruitment purposes. Once hired, HR managers will have access to the competency passbooks (CPs) of individuals, using which they can make decisions on what roles and activities they can assign to an individual based on their prior experiences. This will also allow them to see the individual's growth and competency journey over time; emerging patterns will therefore help them ascertain which agencies provide them with the best talent.

Over the years, the GoI has seen an increase in contractual workers (e.g. data entry operators, multitasking staff, taxi drivers, etc.) – individuals who are not employees of any MDO but whose services are regularly required on a short-term, intermittent basis. Competency passbooks (CPs) will exist not only for regular government officials like Shanti but also for anyone who has worked either directly or indirectly on a government assignment (either through their organisation or as an individual). Using this information, HR managers will be able to make informed procurement decisions and identify the organisations that provide better quality workers.

When HR managers, especially those who work as Cadre Controlling Authorities (CCA), need to make decisions regarding officials deployed from the cadre they control to different MDOs, the CP will enable them to figure out which cadre members are better suited to which MDO.

Finally, fresh government recruits usually go through a probation period after which they are confirmed in service. Their competency assessments and learning journey over the probation period will be available to HR managers – these analytics can be factored in coming to a decision of whether the individual on probation should be confirmed. At a later stage, if the government so chooses, they can also be used to determine promotions and empanelment within the government.

Analytics in service of providers of competency building products (CBPs)

For the purpose of analysis, providers of CBPs (Figure 4, B1) will have to have access to aggregated anonymous data from the iGOT platform of those who have been certified by them so that they can experiment with ways to improve the workplace impact of their CBPs and thereby improve the impact scores of their CBPs. They should also be encouraged to provide 'after sales service' to those who complete their CBPs so that performance improvements can continue. Providing opportunities for collaboration between those who completed a CBP at different points of time would also be useful.

The availability of insights from the above interactions, suitably anonymised for CBP providers, can encourage the generation of a new class of CBPs that are fine tuned to the needs of different kinds of users.

CBP providers will need to develop a nuanced understanding of the learning hub and the impact of their CBPs if the hub is to function well. This will become possible when they have access to:

1. Anonymised data from A1 (competencies) and the roles, activities and positions associated with each of them as well as the number of positions that require each competency;
2. Anonymised data from A2 (competency assessments) of those who have been certified by each CBP provider following successful completion of CBPs offered by them on or through iGOT Karmayogi (A2 will also help them see the impact that their CBPs have on the users as assessed in their workplace and the impact this (A2) has on the impact score of their CBPs (B2)); and
3. Anonymised data from A3 (competency gaps, A1 minus A2) for each role, showing the increase/ decrease in competency gaps over time.

Section 4 Directories, dictionaries and their relationships

This section lists the digital directories and dictionaries and their culmination into a registry on iGOT Karmayogi, and explains why the detailing of their interrelationship are the end products of FRACing.

As a digital system, iGOT Karmayogi requires precision and consistency in the use of labels and descriptions. For example, the terms position, role and activities have unique meanings on iGOT because of which they cannot be used interchangeably however normal it may be to do so in our daily lives.

A directory on iGOT Karmayogi is bound together by a common identifier. For example, the directory of MDOs will contain a full list of all ministries, departments and organisations in the government with a unique code for each. On the other hand, dictionaries can be seen as a kind of registry. While directories contain only listings, dictionaries while being lists also contain a description of what each term relates to and its meaning. For example, a dictionary of positions will not only have a list of all positions, but it will also carry a short description of each of them. The same is true of the dictionary of roles, activities and competencies.

While in a physical world, eight separate directories and dictionaries are required, in a digital world this will be bundled into a singular interconnected, multidimensional, flexible registry, providing us with a composite picture of the government. The power of the digital world allows this multidimensionality – with an infinite number of entries and an infinite number of relationships. These entries within the registry will then be grouped within different collections, which can be changed as and when required. A collection can be viewed as a dynamic rubber band that groups all variants of a position or role. For example, as earlier mentioned, there exists a base definition of Director (Vigilance) in our registry. However, the Secretary of DoPT may decide that two of the roles under this base definition should be taken away from Shanti (as she is overloaded) and be given to the Director (Administration). Thus, while we have a new *variant* of the Director (Vigilance) within the DoPT (which will receive a new name and code), this variant will still be a part of the Director (Vigilance) family. All variants of this position will constitute a collection. As dynamic entities, it is up to us to decide how to use collections – but the base definitions from all directories and dictionaries are irrefutable.

Given the significance of these entries in directories and dictionaries, it is imperative to maintain their sanctity. Due to the requirement for precision and consistency, only persons authorised within each MDO should be permitted to make entries in accordance with the process notified by the iGOT Special Purpose Vehicle (SPV) – Karmayogi Bharat[16].

For a complex digital system such as the iGOT platform to become functional, the contents of these directories and dictionaries will need to be strung together in ways so that its meanings can be understood by a machine. This will be possible when a common grammar is used, what the platform calls a competency mark-up language (CML).

There are several of these directories and dictionaries as well as users and features – all of which interact with each other to produce

[16] A Special Purpose Vehicle (SPV) is established to implement the Public Service Capability and Productivity Enhancement Programme of which iGOT Karmayogi is a part. The SPV (Karmayogi Bharat) will be a not-for-profit government-owned registered company. Besides others, it will be responsible for developing and hosting the iGOT platform and ensuring that all its associated processes are executed in a timely and appropriate manner.

nuanced insights (what has been called intelligence in other parts of this document).

Directories and dictionaries

In order to manage the processes indicated as A1, A2 and A3 as well as B1, B2 and B3 in Figure 4, iGOT Karmayogi will have to have the following digital directories and dictionaries:

1. Directory of participating ministries, departments and organisations (MDOs)
2. Dictionary of positions
3. Dictionary of roles
4. Dictionary of activities
5. Dictionary of competencies
6. Directory of knowledge resources
7. Directory of users (with their competency and trust scores)
8. Directory of CBP providers (with their trust and impact scores)

Given that there is still time for the full-fledged FRACing process to roll out (as detailed in Part 2, the companion of this document), for now the focus will be on populating these dictionaries through the pre-FRACing process (as discussed in Section 5). The details of each of these directories and dictionaries are listed below.

1. Directory of participating ministries, departments and organisations (MDOs)

As the name suggests, this will contain a list of all entities that have registered their intent to onboard on the iGOT platform and paid up the per person annual subscription. Soon after, they will be provided support to complete the pre-FRACing steps so that their positions, roles, activities, competencies and knowledge resources can be onboarded after completing the iGOT Karmayogi due diligence process.

2. Dictionary of positions

This is a list of all positions along with a short description of the position. These positions will be recognised by their basic identity factors such as the position ID (PID), the MDO they represent and the name of the current incumbent (see Table 1 for the key information fields).

It is possible that there are many positions that are identical in the same organisation – for example, an Assistant Section Officer (ASO) in more than one department in an organisation. In such cases, only one position is listed and the rest are differentiated by the name of the incumbent. A position will be considered different when it has at least two sets of roles and their corresponding activities are different from what is already listed in the dictionary of positions on iGOT Karmayogi. In this case, a codification schema will be used to differentiate the positions (e.g. with a separate PID).

It may so happen that a large number of positions may emerge from FRACing or pre-FRACing that are only slightly different from each other in terms of the roles and activities. If that were to happen, they could be listed as variants of the position already in the dictionary – for example PID432 and PID433 (or similar such techniques that help in creating a unique code for it). The reason for identifying these differently is so that the incumbent and their training needs are adequately addressed. It also allows the HoD/MDO to allocate roles and activities to people who are most suitable according to the competencies they have been certified for in they Passbook. It will not be wise to insist that roles and activities related to a position be fixed forever as this will make it impossible for managers to assign roles and activities according to the competencies and motivation of each person.

TABLE 1. Key information fields in the dictionary of positions, roles and activities

PID	MDO	Position Label	Position Description	Name of current incumbent
PID432	DoPT	Deputy Secretary	abc	abc

RID	Role Label	Role Description
RID221	Training (Governance)	abc

AID	Activity Type	Activity Description
AID081	Evaluation (Training)	abc

3. Dictionary of roles

A role is the first level of abstraction from activities. Most of the time, activities can be bunched together in a common thread. This bunching could be based on a common, larger objective: a logical end step to a workflow, or a discrete set of actions that convey the completion of a milestone in a process. This translates into a role label.

This dictionary lists, describes and assigns a unique code for all roles that are distinctively described on the iGOT platform (see Table 1 for the key information fields). Before suggesting a new entry in the dictionary of roles on the iGOT platform, it is important to ensure that a role being considered for entry is not already present under a different label. AI and ML can be very useful here. The codification schema will also be used to differentiate roles (e.g. with a separate role ID (RID)).

Competencies are tagged to roles so that it becomes easy for CBP providers and learners to understand the context in which a competency has to be exercised.

4. Dictionary of activities

As in the case of roles, it is important that activities are also uniquely listed and described on the platform (see Table 1). These activities are actions or steps executed, conducted or processed in a logical sequence by the incumbent to achieve an objective. While sufficient amount of detailing needs to be done, care needs to be taken to ensure that they are not over-detailed.

Activities are the basic unit that emerge from the process. Unlike positions and roles, activities cannot be mutated (i.e. we can change activities between roles, and roles between positions, but not activities between roles as they are usually part of a process). Breaking down a position in terms of its activities and roles gives flexibility to HoDs to mix and match activities to positions so that the current incumbent competencies find an appropriate match to the roles and thus activities they need to perform. Moreover, as the nature of work changes, they start changing at the activity level. For example, the role of the cashier in a bank has changed significantly over the years. Depending upon the usage of technology in that

particular bank, many activities have ceased to continue while some additional ones have been added. The recent COVID19 pandemic has also caused a shift in the nature of work, and thus some changes at the activity level.

As MDOs complete the pre-FRACing process, the dictionary of activities will populate on the iGOT platform. It is therefore important to ensure that the same activity does not get listed under a different name. Maintaining the uniqueness in the dictionary is going to be important. Again, AI and ML can help ensure this as well as the codification schema (i.e. activities ID (AID)).

5. Dictionary of competencies

Competencies are at the core of Mission Karmayogi. A competency dictionary consists of the labels of all competencies, their descriptions and the levels within them. This is required to build a common understanding among CBP providers and users of iGOT Karmayogi. Competencies are directly linked to roles (see Figure 2); when specifying what competency is required for each role, the competency level must also be specified. Users will need it to assess the competencies required for their current position and for positions they aspire to hold in the course of their career. Similarly, CBP providers will use this dictionary for identifying and developing CBPs corresponding to specific competencies. A competency at a certain level can be linked to more than one role.

The DoPT Civil Services Competency Dictionary (DoPT, 2014) already has a list of behavioural competencies. This will be expanded by the FRACing centre of excellence – the Institute of Secretariat Training and Management (ISTM) – to include the commonly used and widespread functional and domain competencies of the government. Alongside ISTM (an MDO), competencies will also be added to the competency dictionary using different processes by other MDOs, CBP providers, and CCAs before MDO-level FRACing begins. These are covered in the pre-FRACing steps (as outlined in Section 5).

As shown in Table 2, the competency dictionary will consist of the certain key information fields.

TABLE 2. Key information fields in the dictionary of competencies

CID[17]	Competency Area	Competency Label	Competency Type (BDF)	Competency Description	Competency Level	Level Description
CID817	abc	Problem Solving	Behavioural	abc	Level 1	abc
					Level 2	abc
					Level 3	abc

[17] In order to ensure competencies are searchable and citable, the dictionary of competencies will be publicly available and a classification code will be introduced in the form of the CID.

BOX 2. Differences between domain/functional and behavioural competencies

One of the biggest differences between the behavioural competencies and the domain/functional competencies is that the latter (domain and functional) are discrete and therefore it is possible to distinguish clearly amongst the levels of sophistication (similar to class levels in a school). Just as the syllabus for each class is a construct created by the ecosystem of the users (kids, parents, teachers), so are the broad constructs for domain and functional competencies created by the stakeholders. In contrast, behavioural competencies are generally accepted universally with cultural adaptations.

Domain or functional competencies are the knowledge and skills required to do an activity or a set of activities to achieve expected results. Therefore, activities are the bedrock on which the domain and functional competency documentation is based on. Any change in the list of activities attached to a role and a position will mean that the competencies for that position will change.

Behavioural competencies, on the other hand, attempt to de-layer the personality of an individual. Deconstructing a personality is not easy, particularly when one aims to create mutually exclusive competencies. Moreover, competency levels are not discrete. The levels, so identified, are usually median points of a behaviour continuum, much like the notes of music. The continuum is artificially broken into levels at convenient points.

As the sophistication of a behavioural competency increases, one can notice that the intensity of intent or completeness of actions taken to carry out the intention increases. The complexity of the actions taken and the greater breadth of impact of such actions are associated with higher levels of the same competency (Spencer, 1993).

Thus, behavioural competencies straddle multiple roles and activities and cannot be limited to one set of roles and activities unlike functional and domain competencies. For example, 'People First', a behavioural competency, may be linked to many roles and activities, whereas 'Financial Accounting Standards' may only be required for those roles associated with financial and accounting related activities.

The relationship between competencies and positions and vice versa

Figure 5 (to be read only from left to right) presents a view of the relationship between one competency and the activities, roles and positions associated with it (these definitions will come from the dictionaries mentioned above). This view is in service of the providers of CBPs in the iGOT Karmayogi learning hub. Such a view allows the providers of CBPs to understand the range of activities and roles that a certain competency is linked to; it also shows the positions that require these competencies and the activities and roles associated with it (note, however, that competencies are directly linked to roles, not activities). Furthermore, it provides the full list of MDOs where these positions exist and also the total number of people who are current incumbents within these positions. This information is important for the iGOT Karmayogi learning hub for CBPs to grow and flourish. Only when this is known can providers of CBPs grasp the kind of product they need to develop and price their product on the basis of volumes they can target.

As you move from left to right, Figure 5 shows all the roles linked to the competency of vigilance planning (which therefore cover a number of activities), and its related positions.

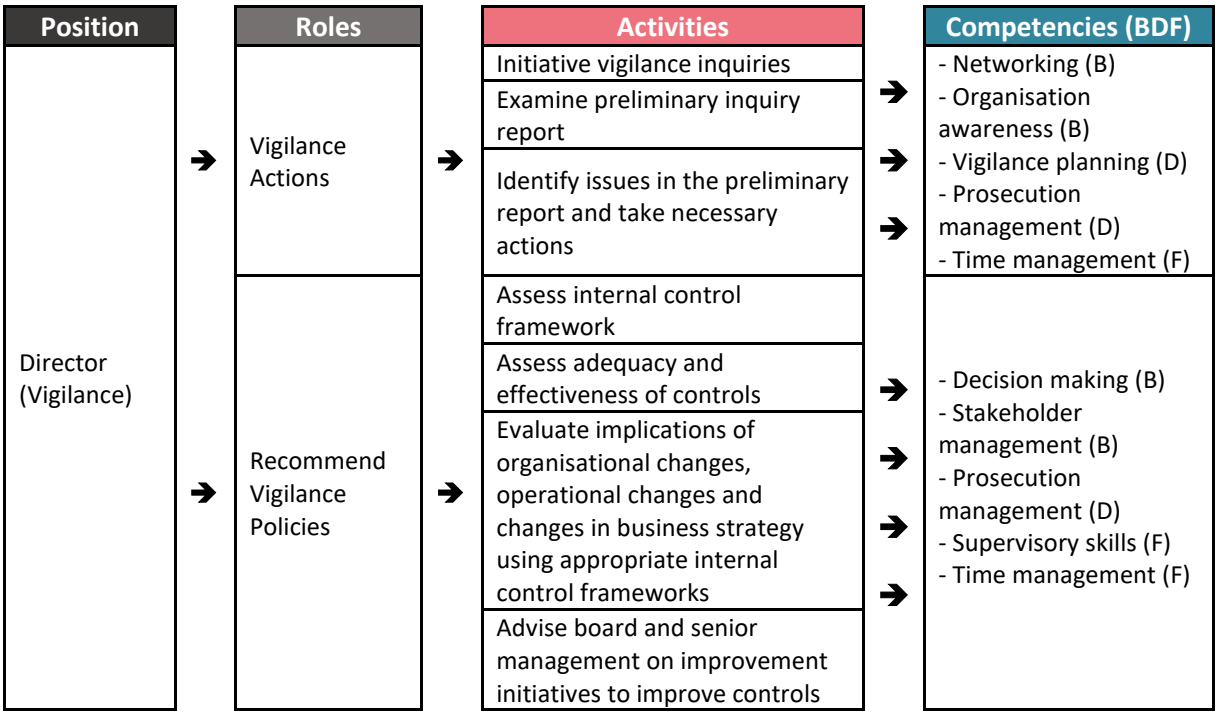
FIGURE 5. The competency view for CBP providers showing all positions linked to a specific competency

Competency	Activities	Roles	Positions	MDOs and current incumbents	
Vigilance Planning →	Familiarise with internal control processes	Vendor selection →	Director (Training)	- Ministry of Health - MHRD - NTPC - Air India	= 221
	Ensure compliance with internal controls				
	Identify sensitive points				
	Evaluate implications of organisational changes, operational changes and changes in business strategy using appropriate internal control frameworks	Recommend vigilance policies →	Director (Vigilance)	- MCD - CVC - DoPT	= 184
	Advise board and senior management on improvement initiatives to improve controls				
	Develop internal control frameworks for the internal audit department				

Note: This figure is for illustration purposes only. The final version may be different.

Figure 6, on the other hand, shows all of the competencies linked to a position – again to be read only from left to right. It shows all the roles linked to the position and the activities linked to these roles but may not show *all* the roles linked to each activity. For the sake of depiction, two different roles and their activities have been taken up to show all of the BDF competencies that are linked to this position. Here the view is of all competencies linked to these roles and therefore this position. When one views these roles and activities independently, one finds that a number of domain and behavioural competencies are repeated (as can be seen in Figure 6 below).

FIGURE 6. The competency view for users showing all competencies linked to a specific position



Note: This figure is for illustration purposes only. The final version may be different

Figure 6 is in service of officials such as Shanti and their managers who are registered on iGOT Karmayogi. Once pre-FRACing has been completed in an MDO, this view helps officials of that entity to understand all the roles and activities they are required to undertake as well as the competencies they need to have to perform them well.

Besides, once competency assessments at the workplace begin and those who have completed CBPs offered on the iGOT platform get their competency tested, the learning hub will begin to carry the impact scores of their CBPs on offer. This will allow Shanti and her manager to make the right choice based on the cost and impact score of a CBP.

6. Directory of knowledge resources

Besides the dictionaries described above, the iGOT platform will also carry several directories (or listings). One such is the directory of knowledge resources. These range from policies to software to legal frameworks to manuals. Linked to activities, they are provided by MDOs to allow officials to perform a certain activity. The directory of knowledge resources will be a collection of all these artefacts. The platform will allow for MDOs to upload these files and/or share suitable links. Once uploaded, these resources will be available to all across the iGOT Karmayogi platform (i.e. once uploaded, it will become a common resource and can be used by more than one MDO).

7. Directory of users (with their competency and trust scores)

The directory of users consists of details of CBPs completed and certified as well as a user's competency score (CS). As one of the key principles of iGOT Karmayogi is the democratisation of access to high quality CBPs, individual officials such as Shanti will be able to onboard the platform, even when her MDO has not onboarded, and start taking CBPs (at her own cost).

The CS of Shanti will be recorded in the CP. For every new position she will hold, a new 'page' in the passbook will be created for the CS (so there will be past competency scores and a current competency score). Ultimately, 25 million government officials will have a CP the same way they have an Annual Performance Appraisal Record (APAR). While every user will have a 'public' profile page, the CP will only be accessible to those with authorisation.

As shown in Figure 7, the CP will be made up of two components:

1. **Competency Score (CS):** The competency score is calculated against the competencies a learner has been tested for. It is algorithmically derived by suitably weighting the following two scores:
    - **Testing competency score (TCS):** This combines the CBP competency score (C-CS), trust score of the CBP provider, PIAA score, and trust score of the PIAA provider. This will tell us whether Shanti knows what needs to be done (knowledge) and how to do it (skill) – i.e. Means.
    - **Workplace competency assessment score (WPCAS):** These reflect the 360-degree assessments done by self, peer, manager and subordinate by answering multiple choice questions (MCQs) posed to those who come into professional contact with Shanti. This will tell us whether she is using her knowledge and skill (i.e. Means) to be productive in the workplace. When the Means is there, both Motive and Opportunity will be required for this to happen. When fully developed, the WPCAS will pose 25 million questions to 25 million officials every day.

2. **Competency gaps:** As shown in A3 of Figure 4, competency gaps are an important component of the equation. The CS should be seen as a timeseries rather than a snapshot – one that shows the increase/ decrease in competency gaps over time vis-à-vis the roles Shanti is required to perform in her current position (provided she has

held it for three months)[18]. This gap should be captured every six months (on the 1st of April and 1st of October).

Other than the CS, learners also accrue an engagement score while interacting with the platform, which reflect the engagement of the users on the platform. There are also karma points that help track the effectiveness of users' interactions with the Karmayogi platform and four of its five hubs (competency, learning, discussion and network).

A combination of all these user scores, alongside others, will be used to build an organisation score on the PM's dashboard and subsequently in the annual SCSR (see Table 3 for more information on this).

Buyers on the iGOT Karmayogi learning hub will fall into one of the following categories:

- A ministry, department or organisation wanting to purchase a CBP for all its employees.
- A manager paying for a CBP (using the iGOT Department Wallet (IDW) that will be allocated funds as per the annual capacity building budget) for one or more members of her team.
- A government official purchasing a CBP to close her competency gap (using her iGOT Individual Wallet (IIW) that will be allocated funds as per the annual capacity building budget)
- A government official purchasing a CBP to obtain desired competencies (using her IIW that will be allocated funds as per the annual capacity building budget)
- A government official purchasing a CBP from her pocket.
- A citizen purchasing a CBP because s/he feels the need to acquire a competency and signal its acquisition.
- A citizen or official taking a course that has no payable course fee[19].

For all of the above, the impact scores for CBPs is going to be important criteria for choosing capacity building products (see Table 3 for more information).

BOX 3. iGOT for non-governmental individuals

Thanks to the COVID19 pandemic, iGOT 1.0 has already made a start in terms of making courses available to individuals not working with the government (i.e. Corona Warriors). Would we like to take this idea forward by making it possible for those who are not government officials to consume CBPs and receive certification by paying fees? At what stage should one develop this feature? Would we like to use this as a process for recruitment?

[18] If Shanti has not been in a position for three months prior to the 1st of April or 1st of October, then there will be no entry for competency gaps in her passbook. Only when she has completed her three months will the gap be recorded (i.e. if she joined on the 2nd of January, 89 days before the 1st of April, her gap will not be recorded on the 1st of April). An official should be given a minimum of three months to fill their competency gaps before being questioned about their gaps.

[19] This should ideally be a conducive climate for philanthropies and CSR funds to invest in building new CBPs on iGOT.

FIGURE 7. The Competency Passbook (CP)

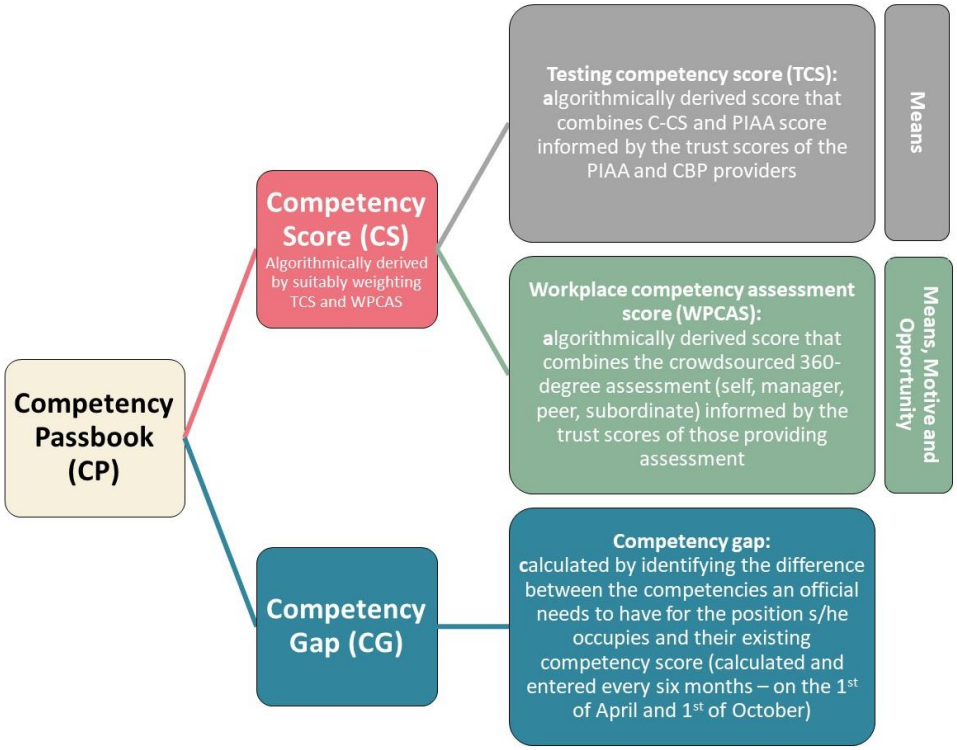


TABLE 3. Scoring on iGOT Karmayogi[20]

	Score	Subject of assessment	Conducted by	Definition
1	CBP competency score (C-CS)	Learner	CBP provider	This score will be given to a learner on the completion of a CBP and its corresponding assessments. It is based on the learner's performance on these assessments and contributes to the TCS (thereby the overall competency score of an individual).
2	Competency score	Learner	iGOT system	Maintained in the Competency Passbook (CP), the competency score is calculated against the competencies a learner has been tested for. It will be algorithmically derived by suitably weighting: the workplace competency assessment score (WPCAS) and the testing competency score (TCS).
3	Content quality score (CQS)	CBP provider	Aggregate of scores by multiple players	The CQS is a combination of two scores: the first is provided through self-certification by the CBP provider; and the second is the score as assigned by a learner and auditor (as appointed by the SPV) of the CBP. When the two CQS are very close to each other, the trust score of the CBP becomes high.
4	Impact score	CBP provider	iGOT system	This score shows the impact of a CBP on the competencies (one or more) the CBP addresses. It is calculated by aggregating improvements in the competency scores of officials who have been certified on the completion of a CBP.
5	Karma points	Learner	iGOT system	Karma points reflect how a user interacts with the iGOT Karmayogi platform and four out of five of its hubs – i.e. how a learner engages on the discussion hub, network hub, as well as the competency and learning hubs. It also quantifies how meaningful and impactful contributions are – are you helping others in a meaningful and effective way?
6	Engagement score	Learner	iGOT system	The engagement score measures the user's engagement with the platform. It directly correlates with platform acceptability and subsequent interaction with the platform. The score is calculated by measuring the behaviours users exhibit on the platform through their relationship with self, others and the content.
7	Organisation score of MDOs	Learner	iGOT system	The organisation score is a composite score of every MDO, drawing upon many of the above- and aforementioned scores in addition to a score from

[20] Note that these scores are constantly evolving as we move through the process of development. AI will be used to constantly discover anomalies using pattern recognition while comparing, for example, PIAA scores with WPCAS scores with C-CS scores. Such anomalies will be automatically added to a bin list for audit and automatically routed to audit parties who will have to attend to it in a first-in-first-out manner, inputting back their findings into the system so that the AI engine is able to validate and improve its pattern recognition features.

				the SPV from the quality audits. Every MDO will have an organisational score on the PM dashboard.
8	Proctored, independent, authorised assessment (PIAA) score	Learner	PIAA provider	This score will be given to a learner taking the PIAA by the PIAA provider. It is comprised of two components: 1) the level at which the competency has been assessed (1-5); and 2) the proficiency within that level (e.g. within these levels, an individual is excellent, good, average, poor). Every official will have to complete the PIAA testing both within the first three months of them joining a new position for all competencies the position requires (if they have not already been tested for that competency in the last 5 years), and again every time the official completes a CBP funded by the government.
9	Special purpose vehicle (SPV) Karmayogi Bharat score	iGOT	iGOT system	The SPV score will be the average of all MDOs' organisational scores. The SPV exists to ensure the success of everyone else. The success of iGOT Karmayogi, therefore, is the success of its services (i.e. the SPV). This is the success of all the MDOs which, in turn, is the success of all the officials – when their competency gaps are narrowed, officials' trust scores are increasing, the trust score of the CBP and PIAA providers increase, the impact scores of the CBPs increase, and so on. When all these scores are impacted, the organisational score increases – and thus, the SPV score also increases.
10	Testing competency score (TCS)	Learner	Aggregate of C-CS and PIAA scores, informed by their trust scores	The TCS is an algorithmically derived score that combines C-CS and PIAA score, and is informed by the trust scores of the PIAA and CBP. Combined with the WPCAS, it contributes to the competency score.
11	Trust score	All users	iGOT system	The trust score is calculated on the basis of the accuracy of a stakeholder's claim using an accuracy meter. It is the extent to which claims made by a stakeholder are found to be accurate and are verified by the processes put into place by the iGOT platform. Trust scores will be calculated for an array of stakeholders: individual learners, HR managers, auditors, CBP providers, PIAA providers, etc.
12	Workplace competency assessment score (WPCAS)	Learner	Authorised and certified vendor	The WPCAS is an algorithmically derived score that combines the crowdsourced 360-degree assessment (self, manager, peer, subordinate) and is informed by the trust scores of those providing assessment. Combined with the TCS, it contributes to the competency score.

8. Directory of CBP providers (with their trust and impact scores for their CBP)

The iGOT Karmayogi learning hub is designed for frictionless onboarding of CBPs on the basis of self-certification by the CBP provider. This is possible because all those transacting on the platform will have a trust score operating in real time. If a CBP provider entered the hub on the basis of a false declaration and it gets flagged by a user or the quality control team of the iGOT Karmayogi SPV, this will lead to a suspension of the content till investigations are completed. If it has been established that a false declaration was made, this will adversely affect the trust score of the CBP provider and, below a certain threshold, their self-certification rights will also be suspended.

It is for this reason and for managing the workflows on iGOT Karmayogi that the platform will build up a directory of CBP providers with the products they offer, alongside their trust and impact scores.

All CBPs put up on the platform will be stored in this directory in various languages along with various delivery mechanisms (text/ audio/ video), pricing, duration, taxonomies (usertags) and the competencies they help gain/ improve. The directory will be organised at four levels: the first and smallest is resources; a collection of resources make a module; a collection of modules make a course; and a collection of courses make a program. The directory will also store impact scores at the level at which the CBP provider is willing to unbundle and price. The impact score is determined on the basis of improvements that users who completed a CBP demonstrate in the workplace.

Thus, a comprehensive set of directories and dictionaries that culminate into a registry with various collections are therefore essential for a digital system like iGOT Karmayogi. They are building blocks that are used to capture the dynamic interlinkages between positions, roles, activities, competencies and knowledge resources. Once the pre-FRACing and FRACing process are complete, the iGOT platform will have an up-to-date version of which position has the responsibility to execute on which role, which activity, and the competencies and knowledge resources needed for it – i.e. A1 in Figure 4.

BOX 4. Pricing of CBPs

How can it be ensured that the pricing for CBPs on iGOT Karmayogi is appropriate? Can this be done on the basis of effort estimation and impact scores. Is there a scoring system that can determine the price algorithmically?

Pricing is a complex activity and perhaps there is no straightforward answer. Pricing should perhaps be left to the demand and supply conditions in the iGOT platform learning hub to determine. Since government officials and managers will have a limited iGOT wallet, and they will see competency building as a critical career building exercise, they should be having every incentive to optimise – buy the most impactful course at the cheapest price. Any attempt to administer prices of CBPs on the iGOT platform will be against the principles of the platform to seek out incentive-compatible ways to solve intractable problems and would attract either allegations of corruption or lead to low quality of CBPs because of undercutting by CBP producers. Another dimension can be pricing of a CBP as an annual subscription paid to a CBP producer that unlocks all courses by them. Other points to consider are implementing dynamic pricing similar to how the likes of Uber or the air travel industry operates. An increase in demand for a particular CBP could be one factor. Another option is value-based pricing by linking it to impact scores of a CBP.

BOX 5. Using AI to prevent performance inflation

How do you prevent performance inflation on iGOT assessments? Will the iGOT Karmayogi micro-questions-based assessments at the workplace not descend into a I-scratch-your-back-you-scratch-my-back club? Everybody gains when everybody gets a high competency score. What is the incentive to be truthful under these circumstances? Why should a HoD not actively enforce a regime where everybody is given high scores by everybody else so that his/her department gets a high score in the PM dashboard and in the annual SCSR? How can trust scores of those scoring others be used to correct for performance inflation? Can strict quality control of the question banks used by the PIAA, by the iGOT Karmayogi SPV be used to detect performance inflation and through that assign trust scores to those who score others? Can random ground truthing of work done by those getting high scores be used to corroborate the competency score being given by each other and assign trust scores based on the validity and reliability of the scores?

Since most of these issues are related to leniency errors, some could be neutralized by 1) performance calibration through standardized formats and calibration (through trust scores) of those providing the evaluation, 2) defined rater accuracy meter (trust scores), and 3) using data to validate the scoring variance with other departments.

The answers or solutions would be multi-faceted. These would involve personal ownership, individual value systems, the behaviour of the team and its leader, performance-based evaluation mechanisms that are in place for that particular department, the policies around these and many other things. Of course, the platform itself has to be capable of handling misuse, abuse, potential fraud, misrepresentation, proxy usage (can be both manual and machine) and any other thing that can induce the performance inflation. AI can solve many of these problems and this would be a continuous journey. We would need to look at the best practices followed by the other learning platform leaders, learn, adopt and implement these solutions. Some potential solutions using AI are analysis of learning pace, spotting of anomalies in learning and assessment results (such as the PIAA and WPCAS scores), random capture of voice, etc.

Section 5 Pre-FRACing engagement

This section covers the four use cases in the pre-FRACing process, which focuses on the drafting of the dictionaries, directories and their interrelationships. There are four types of stakeholders that are addressed in the use cases:

1. MDOs
2. CBP providers
3. CCAs, CTIs, STIs
4. Individual officials

The Mission Karmayogi team at DoPT will launch the certification programmes on 'Drafting of Competencies' and 'Onboarding of CBPs'. Before any individual representing any of the four stakeholders above can add to the competency dictionary, they must complete the course on 'Drafting of Competencies' and be appropriately certified. This is to ensure common understanding with regards to the process of adding competencies to the dictionary.

Similarly, before any CBP provider can upload CBPs onto the platform, a representative in charge of uploading CBPs must complete the course on 'Onboarding of CBPs' and fulfil the quality requirements. This is to ensure common understanding with regards to the process of uploading content on the platform.

All proposals for entries into the dictionaries and directories from all entities will be screened by an editorial board before they are accepted.

Pre-FRACing steps for MDOs

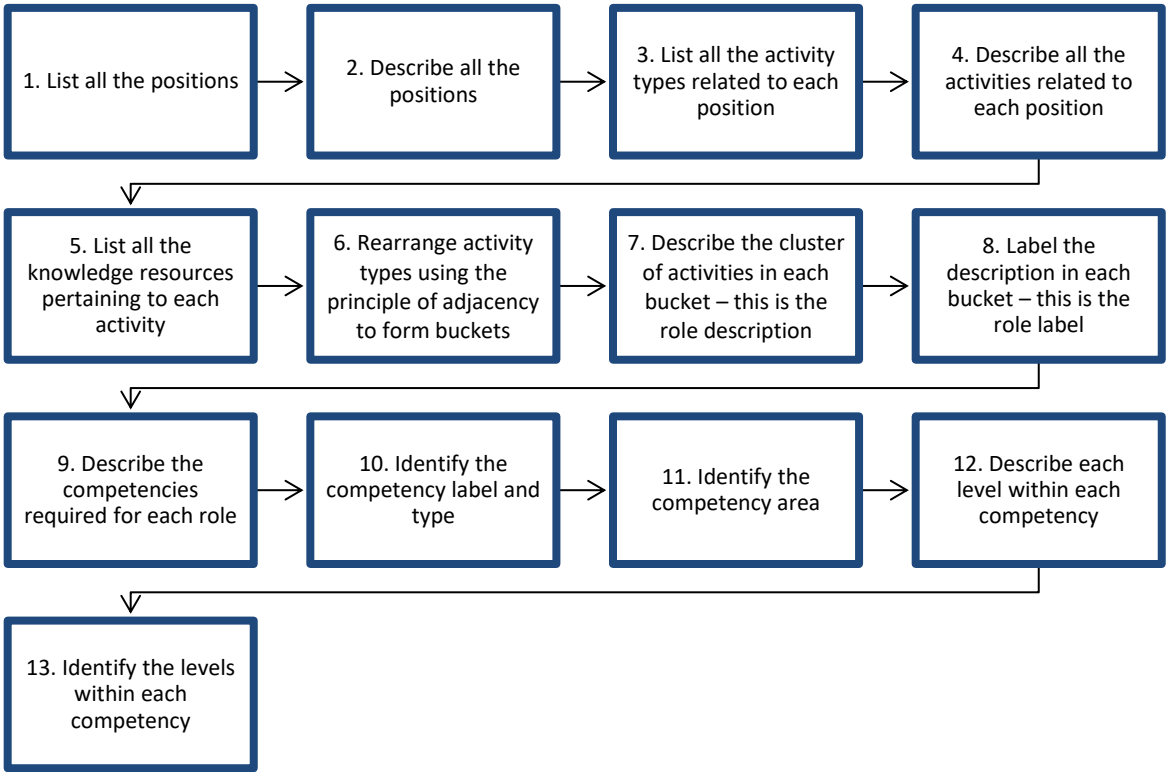
With regards to drafting the dictionaries, directories and their interrelationships, there are three routes an MDO can take:

1. **Steps 1-8:** Drafting only the dictionaries of positions, roles, and activities, and directory of knowledge resources
2. **Steps 9-13:** Drafting only the competency dictionary
3. **Steps 1-13:** Drafting dictionaries of position, roles, activities, and competencies and directory of knowledge resources (completing the full pre-FRACing process)

Steps 1-13 are shown in Figure 8 and are detailed below. An MDO will also have the option to go through Steps 1-13 for a particular vertical/ unit/ cadre of the MDO (as opposed to the whole MDO). This need could arise for a number of reasons – below are the two most common:

- **Recruitment:** The need to define competencies arises due to the need for providing a job description for recruitment.
- **Training:** There is an urgent requirement to begin training members of a team before the FRACing exercise for which learning content is required (for example, tackling the pandemic as per the roles played by different officials).

FIGURE 8. Recommend steps for drafting the dictionaries and interrelationships



Step 1: List all the positions (Position Label)

The position label is the name of the position. It summarises all the associated roles in a succinct manner and gives a sense of where this position is placed in the hierarchy of the MDO (and thereby leadership expectations from the position). List all the position labels in a given MDO (2-4 words).

Step 2: Describe all the positions (Position Description)

The position description should answer the following: Why does this position exist in the MDO? What are its overall objectives/purpose? And how does it go about achieving its objectives? For each of the positions listed above in Step 1, add a position description (140 characters).

Step 3: List all the activity types related to each position (Activity Type)

The activity type is the name of the activity. It should summarise what the individual is doing (e.g. *planning, coordinating, assessing*). For each position, add activity types (usually more than 1). Recommend to use verbs + ing (2-3 words).

Step 4: Describe all the activities related to each position (Activity Description)

The activity description should begin with the objective (i.e. the milestone that is planned to be achieved), list the steps (if more than 1) to be carried out in a sequence, and answer the 'what', 'when' and 'how'. For each activity type listed above in Step 3, add an activity description. Recommend to use verbs (50 characters).

Step 5: List all the knowledge resources pertaining to each activity (Knowledge Resources)

Knowledge Resources are artefacts (documents, software, etc.) provided by the MDO for an individual to perform a certain activity (e.g. standard operating procedures (SOPs), manual of procedures, policy manual, legal policies (i.e. Acts), software such as SPARROW, etc.). They are linked to individual activities. For each individual activity, list all the relevant knowledge resources (if any).

Step 6: Rearrange activity types using the principle of adjacency to form buckets

Every individual activity is a usually a sequential action taken to contribute towards a specific objective/ milestone. Rearrange the activities from Step 3 with their descriptions and place into individual buckets. This will assist in the process of defining roles.

Step 7: Describe the cluster of activities in each bucket (Role Description)

The role description should describe each of the buckets of activities (created above in Step 6). It should answer the following: What is the overall objective of this bucket of activities? Add a description for each of the cluster of activities (70 characters).

Step 8: Label the description in each bucket (Role Label)

The role label should succinctly capture the role description (e.g. *team manager (governance), project manager (communication)*). Create a role label for each of the role descriptions created above in Step 7. Recommend to use nouns (3-4 words).

Aside from the steps above that focus on building the dictionaries of positions, roles and activities, as well as the directory of knowledge resources, MDOs may also want to define competencies as part of the pre-FRACing engagement. In order to do so, they must follow Steps 9-13 below.

Step 9: Describe the competencies required for each role (Competency Description)

The competency description covers the elements and the scope of the competency (e.g. *Identifies one's own emotional triggers and controls one's emotional responses. Maintains sense of professionalism and emotional restraint when provoked, faced with hostility or working under increased stress. It includes resilience and stamina despite prolonged adversities*). Describe the kind of competencies required to fulfil each role (280 characters).

Step 10: Identify the competency label and type (Competency Label and Type)

The competency label should succinctly capture the competency described above in Step 9. It gives an idea of what the competency is about, and how it is commonly known (e.g. *vigilance planning, decision making, project management*). Identify the competency label (2-3 words), and also specify the competency type (i.e. behavioural, domain, or functional).

Step 11: Identify the competency area (Competency Area)

Competency areas can be defined as the collection of competencies closely related to one another at a knowledge/subject level. Cluster the competency labels and identify the generic area in which these competency labels could be categorised (e.g. *technical writing, rules-based copy editing, content writing and editing, research and information synthesis,* and *report writing* will come under the competency area of *Noting and Drafting* (2-3 words)).

Step 12: Describe each level within each competency (Competency Level Description)

The competency level is the proficiency level of the competency. These indicate levels of sophistication of the competency described. The level description is an observable description of each proficiency level of a given competency. The higher the number of descriptors, the greater the understanding of the proficiency level. Recommend to have a minimum of 3 observable descriptors (there are typically anywhere between 3 and 5 levels of proficiency).

Step 13: Identify the levels within each competency (Competency Level)

Once the levels are described, they must be labelled. Competency levels are progressive in nature and normally given in an ascending order. Thus, Level 2 is a more sophisticated use of that particular competency, when compared to Level 1 and so on. If you are adding the competency in relation to a particular role, you must specify the proficiency level applicable to that role.

When identifying competency levels and defining each level with descriptors, MDOs must use the five levels and guiding principles as specified in Box 6.

BOX 6. Guiding principles for competency levels

Competency level descriptors should broadly be categorised as follows:

- **Level 1:** Aware: Is the person aware of the basic principles and can they relate them to own work area?
- **Level 2:** Apply: Can the person apply the basic principles to their work area?
- **Level 3:** Advise: Can the person advise others (directly 1-on-1 or 1-to-many, or indirectly – through a SoP, manual, advisory etc.)? Is it necessary for the person to be a recognized expert in that area?
- **Level 4:** Expert: Has the person developed additional concepts in that area? Is the person a well-recognised expert with demonstrated expertise?
- **Level 5:** Jedi (global expert): Has the person added to the global knowledge in that area?

Ask yourself whether all the descriptors are observable by a third party.

Note that while the above guidance can help, it is essential to be specific in each of the descriptors. For example: Aware of what principles? Apply what principles? What are the areas the advice is sought and who seeks this advice and in what form? The more specific these descriptors are the more relatable they become by reducing ambiguity.

Once the descriptors are complete, stack them into buckets of complexity. These buckets of descriptors bunched together and stacked according to complexity from left to right gives us the proficiency level i.e. competency level.

For CTIs, STIs, and CCAs, the higher abilities identified are likely to be beyond the scope of the current understanding of the role and may be required in the next role in the hierarchy.

Pre-FRACing steps for CBP providers

As briefly discussed in Section 2, CBP providers must be able to identify the competencies their CBP addresses. Every single CBP will be tied to (i.e. tagged to) one or more competencies as declared by the provider. CBP providers will also be invited to upload their CBPs (face-to-face, blended, or digital) on the platform (tagged to the competencies they propose) which may be consumed by officials at their own cost (government money will not be used until impact scores are available – unless the CBP in question is provided by an MDO, or the pricing of the CBP has been approved by an MDO). For example:

- If an MDO has been sending officials for training programs, workshops, and other CBPs, they may continue to do so after onboarding the providers and uploading the CBP details on the iGOT Karmayogi platform.
- If an MDO wishes to send officials to a new training program, workshop, etc. they will have to onboard the respective provider and upload content details on the iGOT Karmayogi platform before they can do so (irrespective of whether it is online, face-to-face or blended).

A series of drafting workshops will be organised by DoPT to populate the dictionary of competencies, with appropriate labels, descriptions and levels. It is important to note that, irrespective of whether an individual has attended these workshops or not, once they have obtained the 'Drafting of Competencies' certification they will be able to add to this dictionary (subject to screening from the editorial board).

As part of the pre-FRACing engagement, CBP providers are invited to populate the competency dictionary – and thus will be required to follow the steps detailed below.

Step 1: Search the competency dictionary

Search the competency dictionary to identify the competencies (one or more) that are being covered by the CBP designed. It is likely that more than one competency will be covered by the CBP – for example a CBP on GST is likely to cover topics related to Direct Taxes, Comparative Tax regimes etc. Go through the descriptions available and choose the ones closest to the ones that are likely to be covered by the course.

Step 2: Identify the competency area and type (Competency Area and Type)

In case there is no competency that likely covers the CBP, begin by identify a competency area within which your CBP falls. Competency areas can be defined as the collection of competencies closely related to one another at a knowledge/subject level (2-3 words). Also specify the competency type (i.e. behavioural, domain, or functional).

Step 3: Use the learning objectives to identify the competency label (Competency Label)

Look closely at the course objectives of the CBP. Most of the time, these course objectives identify what the learner is likely to learn after going through these courses. A good example is given below:

Course Name	Course Objectives
Sustainable Development Goals and Gender Budgeting	a) Gain enhanced knowledge of gender concepts and definitions b) Gain overview of Sustainable Development Goals (SDG) c) Understand interface between gender and SDG d) Acquire knowledge about gender mainstreaming and Gender Responsive Budgeting

Once these learning objectives are achieved by the learner, what competencies will she be likely to demonstrate? Can they be observed by a third party? For example, from the above course objectives, the following aspects can be derived:

1. Ability to identify items in the budget that are Gender Responsive
2. Ability to create a Gender Responsive Budget
3. Ability to articulate the Sustainable Development Goals clearly and how own organisation's goals fit into it
4. Ability to identify aspects of a program (for example Swachh Bharat) that are adversely impacted by gender issues
5. Ability to suggest changes or incorporate gender understanding into programme design or implementation

Use the learning objectives of the CBP to create a competency label (or competency labels, depending on how many competencies the CBP addresses). The competency label should succinctly capture the competency the CBP covers. It gives an idea of what the competency is about, and how it is commonly known (e.g. *vigilance planning, decision making, project management*) (2-3 words).

Step 4: Describe the competency (Competency Description)

At this stage, one can confidently describe the competency. This covers all the levels, the inherent elements and structured in a simple and most likely in a single sentence. For example: *Gender Budgeting: Ability to identify the gender issues that are likely to impact the achievement of budgeted goals and targets and creating enabling provisions that can help achieve sustainable goals using gender-based budgeting* (280 characters).

Step 5: Use the learning objectives to describe competency levels (Competency Level and Level Description)

The competency level is the proficiency level of the competency. These indicate levels of sophistication of the competency described, are progressive in nature and normally given in an ascending order. Thus, Level 2 is a more sophisticated use of that particular competency, when compared to Level 1 and so on.

The level description is an observable description of each proficiency level of a given competency. The higher the number of descriptors, the greater the understanding of the proficiency level. When identifying competency levels and defining each level with descriptors, CBP providers must use the five levels and guiding principles as specified in Box 6.

There are typically anywhere between 3 and 5 levels of proficiency for which it is recommend to have a minimum of 3 observable descriptors each (for example, points 1 and 2 in Step 3 above seem like similar kind of complexities and therefore likely to be descriptors of the same level). For CBP providers, however, identifying 2-3 levels is sufficient (ideally one above and one below the level their CBP is addressing – unless their CBP is addressing *Gender Budgeting* at level 1, in which case they only need to identify one level above).

Pre-FRACing steps for CCAs, CTIs, STIs

This scenario comes up when a CTI, STI or the CCA would like to identify competencies required of officials who are at a specific part of their career (foundation, mid-career etc.). The CCAs, CTIs and STIs tasked with developing such programmes are constantly looking to equip the officials of the respective cadres for the future. They also have, at their disposal, processes to understand what competencies have been acquired through the different stints and training programs that the officials have gone through thus far. Thus, it is also important to understand what the current baseline is of the officials as they embark upon the next phase of their career.

In all such scenarios, the following is likely to be the case:

- All the officials belong to a particular cadre.
- It can be assumed that officials with similar levels of seniority are likely to have many commonalities in the roles that they are likely to perform and hence a common set of competencies and learning needs.
- The CCAs, CTIs and STIs can conduct periodic studies to understand how the roles are likely to change and accordingly identify competencies that are likely to become necessary.
- The competencies required for each block of 10 years (foundation programme to mid-career) may be identified by studying the roles that *most* of the officials are *likely to perform*.

The objective is to arrive at a set of roles that are common among all these positions and a common set of competencies associated with these roles.

CTIs, STIs and CCAs should undertake studies to identify how roles is likely to change or have changed and what components of the roles are likely to get strengthened or to disappear. Such a periodic 'benchmarking' study can inform how the roles are likely to change and what competencies are likely to gain prominence.

A series of drafting workshops will be organised by DoPT for CCAs, CTIs, and STIs to populate the dictionary of competencies, with appropriate labels, descriptions and levels. It is important to note that irrespective of whether an individual has attended these workshops or not, once they have obtained the 'Drafting of Competencies' certification they will be able to add to this dictionary (subject to screening from the editorial board).

The following are the steps required to be taken.

Step 1: Search the competency dictionary

Search the competency dictionary available (on the iGOT platform) to shortlist the competencies (one or more) that are likely to be useful in this exercise.

Go through the descriptions available and prune the shortlist to eliminate those that are likely to have been covered earlier or are not likely to be useful for the position(s) in question.

Step 2: Create a competency label (Competency Label and Description)

In case there is no competency that covers what you have in mind, create a competency label that best defines that competency. The competency label should be succinct, give an idea of what the competency is about, and how it is commonly known (e.g. *vigilance planning, decision making, project management*) (2-3 words).

The competency description covers the elements and the scope of the competency (e.g. *Identifies one's own emotional triggers and controls one's emotional responses. Maintains sense of professionalism and emotional restraint when provoked, faced with hostility or working under increased stress. It includes resilience and stamina despite prolonged adversities*) (280 characters).

Step 3: Identify the competency area and type (Competency Area and Type)

Locate the competency area within which Competency A falls in. Competency areas can be defined as the collection of competencies closely related to one another at a knowledge/subject level (e.g. *technical writing, rules-based copy editing, content writing and editing, research and information synthesis,* and *report writing* will come under the competency area of *Noting and Drafting* (2-3 words)). Also specify the competency type (i.e. behavioural, domain, or functional).

Step 4: Identify competency level and description (Competency Level and Description)

The competency level is the proficiency level of the competency. These indicate levels of sophistication of the competency described. Competency levels are progressive in nature and normally given in an ascending order. Thus, Level 2 is a more sophisticated use of that particular competency, when compared to Level 1 and so on.

The level description is an observable description of each proficiency level of a given competency. The higher the number of descriptors, the greater the understanding of the proficiency level. Recommend to have a minimum of 3 observable descriptors (there are typically anywhere between 3 and 5 levels of proficiency).

When identifying competency levels and defining each level with descriptors, CCAs, CTIs and STIs must use the five levels and guiding principles as specified in Box 6.

Pre-FRACing steps for individual officials

Consumption and onboarding of CBPs by individual officials (with MDO approval)

If a CBP required to build an official's competency is on the iGOT Karmayogi platform, the official can consume the CBP so long as it is tagged to competencies associated with their position (via roles).

If a CBP required to build an official's competency is not on the platform, the official should get in touch with the CBP provider and facilitate their onboarding on the platform by the MDO. Once the CBP provider is onboarded, they will be able to upload their CBP on the platform (after tagging it to an existing competency, or submitting a proposal for a new competency and tagging it post approval from the editorial board).

If the official wishes that their MDO should finance their participation, the CBP in question must have an impact score and price, or the CBP must have been uploaded by an MDO after finalising the price. The official may also consume the CBP at their own cost (for which MDO approval is not required).

In the former situation, before the MDO can finance an official's consumption of a CBP on the platform, the official will have to ensure that their position and associated competencies are recorded in the dictionaries and tagged to one another (with the approval of the MDO). Note that the platform may have competencies with no CBPs, but never CBPs without tagged competencies (as CBPs cannot be uploaded without being tagged to competencies).

Populating of the competency dictionary by individual officials

If an official wishes to get a competency tagged to their position (via roles), they must complete the pre-FRACing process for their position using Steps 1-13 as listed above under 'Pre-FRACing steps for MDOs'. If, however, an official feels an important competency she wishes to obtain is not listed – and thus neither are the associated CBPs – the official can submit their entry in the competency dictionary directly with appropriate labels, descriptions and levels for approval by the editorial board.

Conclusion

Over the years, it has become increasingly apparent that government officials like Shanti in India often lack the key competencies required to fulfil a role – due to either lack of quality training opportunities or the fact that they are required to take on responsibilities for which they do not have prior experience or knowledge. Often, despite wanting to do so, many are unable to thus improve their competencies. As tasks become more complex and citizen expectations go up, it is imperative that governments are able to address these competency gaps and provide opportunities to reduce them

As an initiative designed for the future, iGOT Karmayogi will be a self-sustaining platform that will mark the beginning of an era of transformative change in lifelong learning and capacity building in the government. Through the mapping of the three constructs (roles, activities and competencies), as well as knowledge resources, for each individual position within all government MDOs at the Central, State and local level (i.e. FRACing), the process will enable the government to reduce the competency gaps of their officials in relation to the roles and activities they are required to perform.

This document outlined the key terms of the process, emphasising the need for a common understanding, specified the preparatory steps to the FRACing process, described its linkages to the iGOT learning hub and described the analytics and data the platform can make available. The evolving nature of the Framework was also repeatedly emphasised.

It is anticipated that the launch of Mission Karmayogi and the Framework of Roles, Activities and Competencies will contribute significantly to the execution capacity of the Indian state.

References

Cabinet Secretariat, Government of India. (2017). *Government of India (Allocation of Business) Rules, 1961*. Retrieved from https://cabsec.gov.in/writereaddata/allocationbusinessrule/completeaobrules/english/1_Upload_1187.pdf.

Civil Services Human Resources, Government of the UK. (2012). *Civil Service Competency Framework 2012-2017*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/436073/cscf_fulla4potrait_2013-2017_v2d.pdf.

Department of Personnel Training (DoPT), Government of India. (2014). *Civil Services Competency Dictionary*. Retrieved from https://dopt.gov.in/sites/default/files/Competency%20Dictionary%20for%20the%20Civil%20Services.pdf.

Department of Personnel Training (DoPT), Government of India. (2020). *iGOT 2.0: An Initiative for Capacity Development of Civil Services: Consultation Paper on Approach to Strategy and Implementation*.

Department for Promotion of Industry and Internal Trade (DIPP), Government of India. (2019). *Work Allocation*. Retrieved from https://dipp.gov.in/sites/default/files/WORK%20ALLOCATION%2023092019.pdf.

International Atomic Energy Agency (IAEA). (n.d.). *The Competency Framework: A guide for IAEA managers and staff.* Retrieved from https://www.iaea.org/sites/default/files/18/03/competency-framework.pdf.

Lombardo, M. M. and Eichinger, R. W. (1996). *The Career Architect Development Planner*. Minneapolis, MN: Lominger.

National e-Governance Division (NeGD), Government of India. (2014). *Simplifying capacity building – e-Governance Competency Framework for Digital India with Implementation Toolkit*. Retrieved from https://negd.gov.in/sites/default/files/e_governance_competency_framework_1.pdf.

National Training Policy (NTP), Government of India. (2012). *Implementation of a National Training Policy – 2012 and formulation of a new DAD training policy*. Retrieved from https://cgda.nic.in/centrad/ntp2012.pdf.

Organisation for Economic Co-operation and Development (OECD). (2014). *Competency Framework*. Retrieved from https://www.oecd.org/careers/competency_framework_en.pdf.

Spencer, L. M. and Spencer, S. M. (1993). *Competence at Work: Models for Superior Performance*. New York, NY: John Wiley and Sons, Inc.

United Nations (UN). (2020). *What we look for*. Retrieved from https://careers.un.org/lbw/home.aspx?viewtype=WWLF.

Appendix 1 Proposed Approval and Pricing Plan for Different Types of CBP Providers

No.	Type of Provider	Description	Pricing	CBC approval of provider
1	Retired government officials	Retired official receiving a pension from the government providing CBPs	Pricing at provider's discretion	Required
2	Private Providers (for- and not-for-profit) – Priced	Private provider (e.g. IGNOU, Harvard, Udemy, Pratham, Khan Academy, etc.) offering CBPs	Pricing at provider's discretion	Required
3	Private Providers (for- and not-for-profit) – Free	Private provider (e.g. IGNOU, Harvard, Udemy, Pratham, Khan Academy, etc.) offering CBPs at zero price	Free	Required
4	Private Providers (for- and not-for-profit) – Negotiated by MDOs	MDO negotiating with an individual/organisation for a particular rate to introduce CBPs	Pricing through negotiation by MDO (in conditions as explained in the footnote[21], officials can be sponsored without negotiation or any tendering process)	Not required (but workflow must exist)
5	Private Providers (for- and not-for-profit) – Sourced by MDOs	MDO desires a particular course/ specific content, and thus sources and onboards a CBP provider	Pricing as agreed between MDO and provider at the time of giving the work order	Not required (but workflow must exist)
6	In-service officials – Priced	Currently serving government official in an MDO either creating or repurposing an existing course (where CC licence has been given) and offering it for a price	Pricing at provider's discretion	Not required
7	In-service officials – Free	Currently serving government official in an MDO either creating or repurposing an existing course (where CC licence has been given) and offering it for free	Free	Not required

The CBP providers for whom pricing is at the provider's discretion will have to offer their CBPs for free until there is enough uptake so as to enable the iGOT Karmayogi platform to assign impact scores. Once impact scores have been assigned, providers will be allowed to price their CBPs.

[21] If the CBP provider is an institution that is ranked in the top 100 globally or top 20 nationally for India, or ranked in the top 20 globally or top 10 nationally for India by subject area (by either QS (https://www.topuniversities.com/university-rankings/world-university-rankings/2020) or Times Higher Education (https://www.timeshighereducation.com/world-university-rankings)), and pricing is publicly listed, officials may be sponsored to take the CBP without negotiation or any tendering process. The MDO must also obtain a certificate signed by the CBP provider's HoD stating that the CBP has been running for at least 2 previous batches in which the percentage of self-paying students has been more than 20%, and the price they are offering is the lowest offered to anyone in that academic year for said CBP.