



FAST
INDIA

Research Management in Indian Universities

Strengthening the Foundations

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Chapter 1

About the working paper

The document provides a comprehensive guide to the best practices and strategies for managing research at institutions effectively. Whether you are a Director at an academic/ research institute looking to create or revamp a Research Management Office (RMO) at your institution or a seasoned research management professional in charge of setting up your own research ecosystem, this document will help you navigate the complex landscape of research management.

The guide covers all aspects of research management, including planning and execution, communication, collaboration and evaluation. The document builds on a previous FAST India output- '*The Ingredients of a Robust Research Ecosystem*' and a survey conducted to understand the status of Research Management Professionals in India. These documents provide the primary and secondary components of research for this brief's foundation.

Kindly note that FAST India does not intend to use this document as a marketing tool seeking consultancy projects. We firmly believe that this is a self-sufficient handbook capable of providing comprehensive guidelines for setting up or improving research ecosystems at academic/ research institutions. Our primary objective is to contribute to the advancement of research management practices and foster a culture of excellence within the research community.

Chapter 2

Scope

The research functionalities, as envisioned in FAST India’s brief, titled *‘The Ingredients of a Robust Research Ecosystem’* form the foundation of an academic/ research institution’s quest for creating an effective and dynamic research ecosystem.

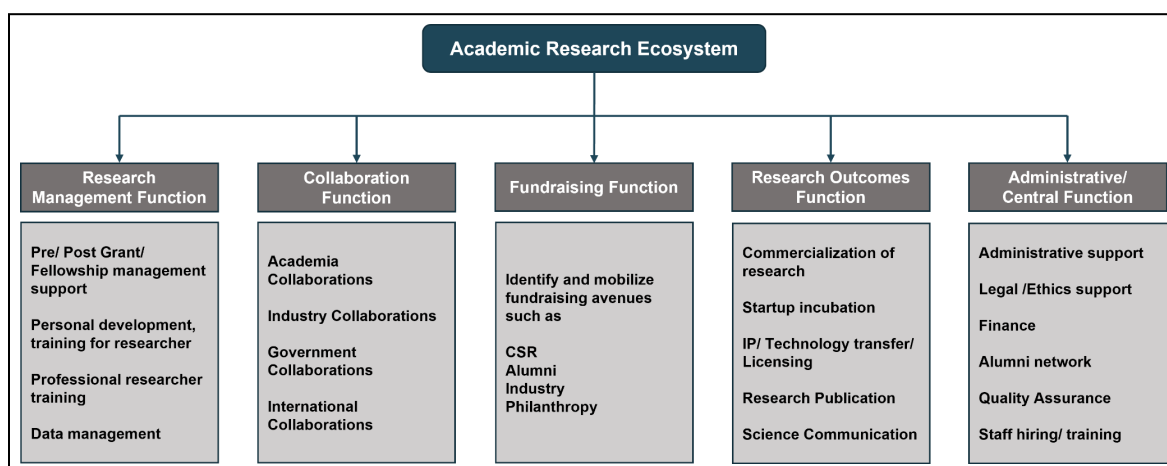


Figure 1: Functions for effective research ecosystems¹

The roles within the research cycle have specific functions. While researchers can handle some of them, there has been a shift towards professionally trained personnel taking on these responsibilities due to the growing competitiveness in scientific research.²

Figure 2 illustrates various tasks a researcher undertakes throughout the research cycle. Considering the core tasks under each functionality (Figure 1), an envisioned central unit called the Research Management Office (RMO) can provide researchers with much needed professional support. It is to be noted here that the RMO, as envisioned in this brief, is just one of many possible iterations. There may be difference in the organisational setup depending upon existing institutional governance and administrative frameworks and the same should be taken into consideration while drawing parallels with the ideas presented in this document.

A typical RMO in an academic/research institution is a central non academic unit that oversees and manages all aspects of research, from conception to dissemination. Its main goal is to support and promote high-quality research across the institution by providing research-related services to researchers, faculty, and students.

¹ <https://www.fast-india.org/wp-content/uploads/2023/01/The-ingredients-of-a-robust-research-ecosystem.pdf>

² <https://www.advance-he.ac.uk/knowledge-hub/professional-managers-uk-higher-education-preparing-complex-futures-final-report>

The RMO has a team of professionals with diverse backgrounds in research management, grant administration, contract negotiation, ethics and compliance, intellectual property, strategic planning, and research communication. They work together to create a supportive environment for research, ensuring compliance with regulations, providing guidance on funding opportunities, and supporting the dissemination and commercialisation of research outcomes.

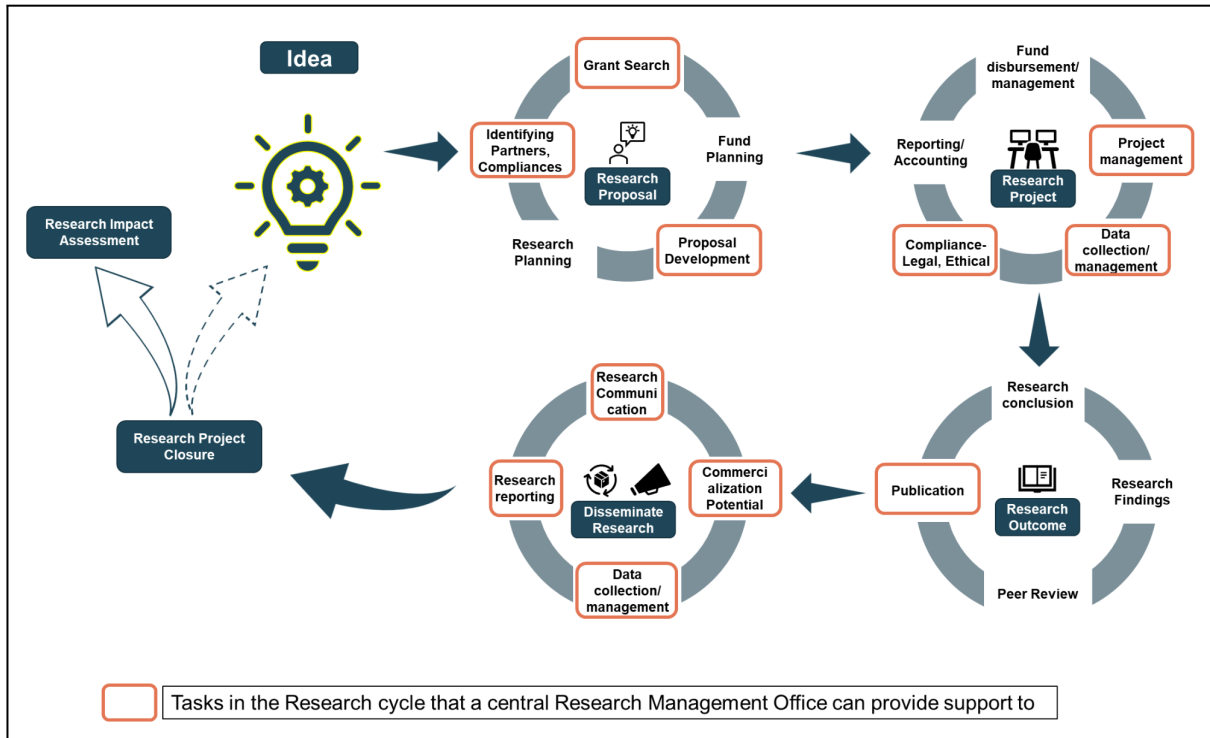


Figure 2: RMO support areas

This brief looks at the 6 building blocks of the organisational setup: Structure, People, Processes, Incentives, Network and Culture and applies the same to developing the RMO. We believe it provides a framework for understanding the different elements that make up an organization and how they interact with each other. By analyzing and evaluating these elements, organizations can identify areas of improvement and implement changes to increase efficiency, productivity, and overall success.

Chapter 3

Introduction

3.1 The ailment: FAST India's Ease of Doing Science Survey indicates that even researchers from top ranked Indian research institutions find factors such as Obtaining and Utilization of funds, Commercialisation of research to be challenging. Consequently, it is not surprising that survey respondents have called for competent and skilled technical and non-technical staff to support research activities. At a time when the country is beset with complaints from researchers regarding fund management and other research support issues³, the need for creating enablers for efficient research processes seems justified.

A second [survey](#) conducted by FAST India to understand the challenges faced by Research Management professionals working in Indian academic/ research institutions highlighted the need and importance of formalisation of the Research Management profession. Further, the survey also highlighted a need for more training and support for the professionals to perform their tasks effectively and grow professionally. The low number of Research Management professionals in the country indicates a lack of efforts by stakeholders to develop this profession despite its obvious benefits to the research ecosystem.^{4,5,6}

3.2 The opportunity: The cue for improvement lies in building research capacity. It is critical for improving the quality and relevance of research, increasing the productivity and retention of researchers, enhancing the impact of research on policy and practice, and promoting equity and inclusivity in research. A significant part of building research capacity lies in investing in activities and functions that support research.

Literature⁷ suggests several barriers prevent researchers from fulfilling their potential, especially in Low and Middle Income Countries (LMICs). Issues such as underinvestment in universities and research institutions, limited access to current research findings, low wages, and poor career prospects are just a few of them. As a result, there is a growing global awareness that strengthening research capacity in LMICs is crucial for achieving development goals, leading to an interest in research capacity strengthening interventions.

Research capacity building interventions aim to enhance the ability of individuals and institutions to undertake high-quality research and engage with the broader community of stakeholders. These interventions can target the individual, organizational, or national components of research capacity, with strong linkages between components potentially leading to broader effects.

³ <https://scroll.in/article/1025619/the-broken-promise-of-indian-science>

⁴ https://books.google.co.in/books/about/Research_Management.html?id=2PypDQAAQBAJ&pg=PA59#v=onepage&q&f=false

⁵ <https://files.eric.ed.gov/fulltext/EJ1162041.pdf>

⁶ <https://wellcome.org/sites/default/files/research-management-in-africa-and-india.pdf>

⁷ <http://www.cohred.org/wp-content/uploads/2012/09/ESSENCE-2014.pdf>

3.3 Recommendations: The objective of this document is to suggest measures for enhancing institutional research capacity through interventions in research management. Specifically, the proposed interventions focus on the development of a Research Management Office (RMO) at an Indian academic/ research institution, with a focus on creating a formalized structure with clear roles and responsibilities, hiring of relevant personnel, and effective operational practices. The brief outlines the six components necessary for establishing a successful RMO and provides a detailed discussion of each component. Figure 3 offers an overview of the organisational setup that will be discussed in further sections of this document.

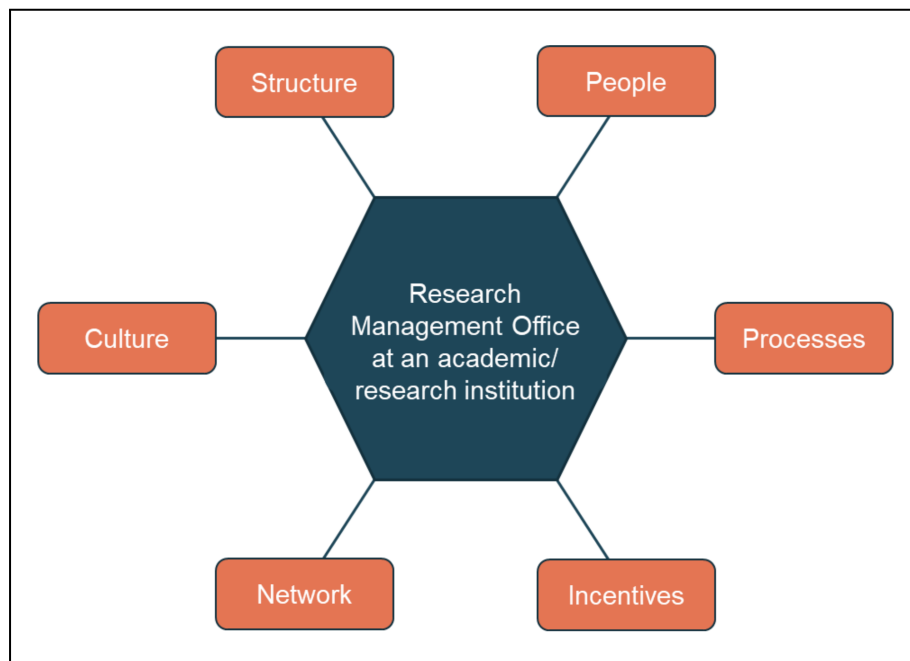


Figure 3: Organisational setup of the RMO

Chapter 4

Structure

The organizational structure of an academic/ research institution typically consists of several departments or centers that focus on specific subjects. For example, a university might have academic departments such as Engineering, Natural Sciences, Health Sciences each headed by a faculty member with expertise in that field. In addition to these academic departments, there may also be non academic departments that support the research activities of the institution, such as a Research Management Office, Fundraising Office, Collaborations Office. The physical infrastructure of the institution includes laboratories, research facilities, and equipment that support research activities and this makes up for the entire research ecosystem of the institute.

Establishing the structure of these non academic departments is essential to the efficient functioning and proliferation of research in the institution. Given the scope of this paper, we shall focus on the RMO and establish the roles and responsibilities among the members of this department.

Given below is a sample structure of the RMO and its constituents. Roles such as Strategy & Planning, Ethics & Compliance and Grants & Contracts are core RMO roles whereas IP & Commercialisation and Communication & Outreach may or may not sit under the purview of the RMO. Depending upon institutional preferences, these roles may operate with a larger mandate and require separate entities such as Technology Transfer Offices or Communications Offices reporting directly to the Dean/ Director R&D. For the sake of completeness of the tasks within the research cycle, all the above said roles have been defined in this document.

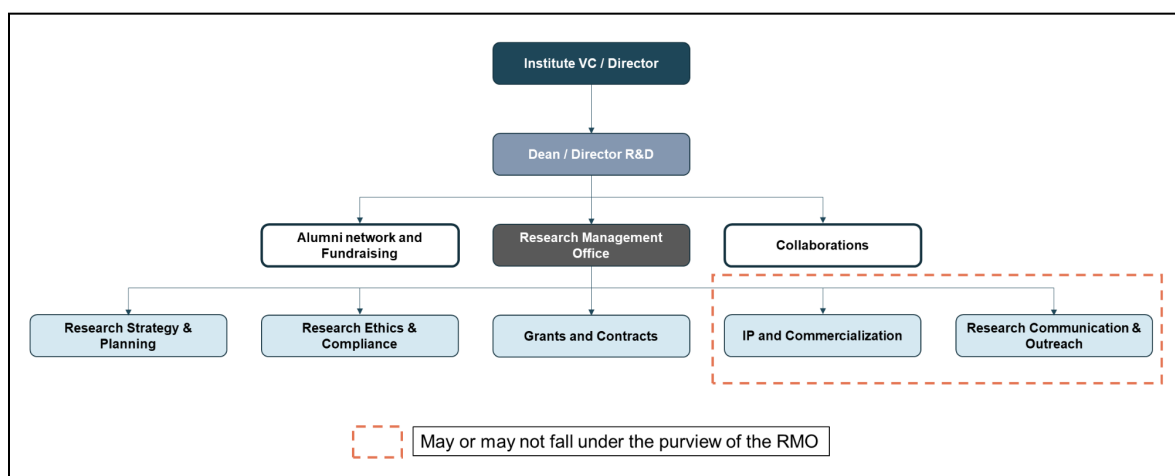


Figure 4: Sample structure of the RMO

4.1 Research Management Office: The RMO is responsible for overseeing and ensuring that research activities are conducted in compliance with institutional research strategy and ethical guidelines. The RMO reports directly to the Dean/ Director R&D of the institution.

4.2 Research Strategy and Planning: This role is responsible for developing and implementing the institute's research strategy. This role ideally lies with the Director of the RMO and Dean R&D but can be additionally staffed to assist the senior management.

4.3 Research Ethics & Compliance: This role is responsible for ensuring that research activities are conducted in compliance with institutional and ethical guidelines. The role responsible reports to the Director of the RMO.

4.4 Grants & Contracts: This role is responsible for identifying and securing funding opportunities for research activities. The responsible personnel reports to the Director of the RMO.

4.5 IP & Commercialization: This role is responsible for overseeing the daily operations of the technology transfer and commercialization office. This includes developing policies and procedures, and overseeing the development and implementation of technology transfer strategies.

4.6 Research Communication & Outreach: This role is responsible for promoting the research activities of the institute to internal and external stakeholders.

The table below shows the roles and responsibilities for the said roles in detail. The institution can choose to staff these roles as per their governing principles but should ideally ensure at least 2 professionals (Manager, Associate) for each.

Table 1: Roles and responsibilities of RMO personnel

Roles/ Functions	Responsibilities
Research Management Office	<ol style="list-style-type: none"> 1. Oversee the institutional research functions 2. Ensure that research activities are conducted in compliance with institutional research strategy and ethical guidelines 3. Develop and implement a research strategy for the institute 4. Identify areas of research focus 5. Allocate resources for research activities 6. Manage the institutional review board (IRB) process 7. Secure funding opportunities for research activities 8. Promote the research activities of the institute to internal and external stakeholders
Research Strategy and Planning	<ol style="list-style-type: none"> 1. Develop and implement the institute's research strategy 2. Identify areas of research focus for the institute 3. Develop and implement research plans for each research activity 4. Allocate resources for research activities
Research Ethics and Compliance	<ol style="list-style-type: none"> 1. Ensure that research activities are conducted in compliance with institutional and ethical guidelines 2. Manage the IRB process for all research activities at the institute 3. Develop policies and procedures to ensure compliance with relevant regulations
Grants and Contracts	<ol style="list-style-type: none"> 1. Identify funding opportunities for research activities from external

	<ul style="list-style-type: none"> sources 2. support researchers in developing grant proposals 3. Manage contracts for research activities
IP and Commercialisation	<ul style="list-style-type: none"> 1. Identifying and assessing the value of intellectual property, filing patents, negotiating licensing agreements, and managing patent portfolios 2. Assessing the commercial potential of research outputs, identifying potential licensees, negotiating licensing agreements, and supporting the development of spin-out companies.
Research Communication and Outreach	<ul style="list-style-type: none"> 1. Develop and implement communication strategies to increase awareness of the institute's research activities 2. Promote the institute's research activities to internal and external stakeholders through various channels such as conferences, media, and publications

A sample structure for Key Performance Indicators for these roles is given in **Annex 1**.

Chapter 5

People

The people who work within an academic/research institution include faculty members, researchers, administrative staff, and students. Faculty members are typically appointed based on their academic qualifications and research experience, and are responsible for teaching and conducting research in their area of expertise. Researchers may be faculty members or individuals who are employed specifically to work on research projects. Administrative staff provide support services such as finance, IT, human resources, and facilities management. Students are also an important part of the research community, as they are involved in research projects and contribute to the research output of the institution.

Our area of focus lies on a cadre of non academic support staff involved in facilitating research activities. Roles such as Research manager, Grants and Contracts manager, Fundraising expert, Industry-Academia Liaison, IP & Commercialisation officers, among others have steadily grown over the years in academic institutes. These professionals provide support based on their expertise and experience in an increasingly competitive environment.

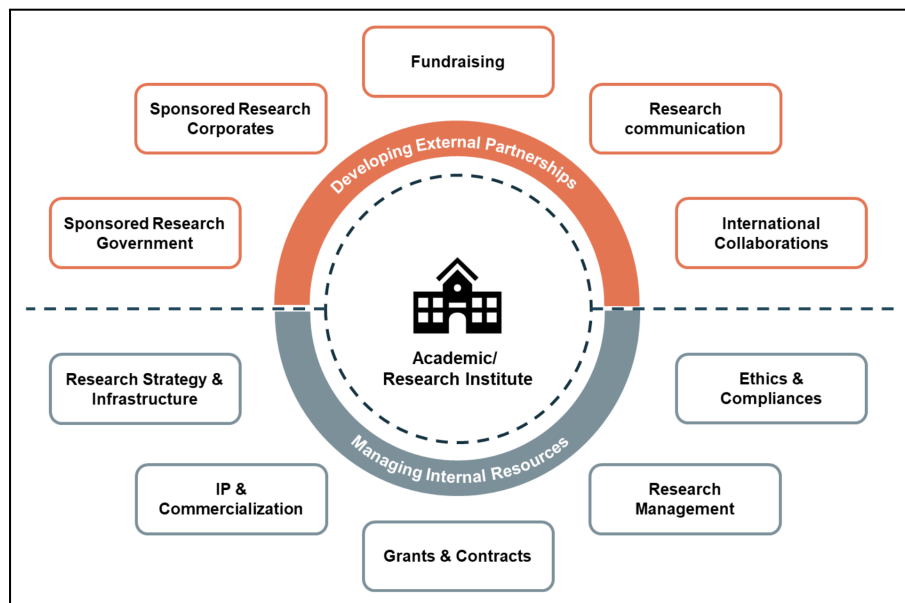


Figure 5: Skill requirement for the RMO

Not only do they support researchers by assisting them in grants, contracts, ethics compliances and IP management but they also perform a lot of outward facing tasks that can also be classified as ‘business development activities’. Tasks such as establishing industry and academia connects for sponsored research projects and partnerships, fundraising,

research communication and even seeking international collaborations are just as important and instrumental in creating an ideal research ecosystem.

Figure 5 is an illustration of the two kinds of activities centered around academic/ research institutions. While there may be more areas of focus depending upon institutional strategy and preference, this visualization is intended to broadly cover the spectrum of Research management and its allied activities. It is to be noted that this list of activities may or may not sit entirely under the purview of the RMO. Outward facing activities might be categorised with other Business Development activities pertinent to the larger ambit of the institution and hence find space elsewhere. This representation only serves to categorise research related activities.

5.1 Developing External Partnerships:

This is a crucial activity under the RMO. These days, research is increasingly interdisciplinary and requires collaboration between multiple institutions, government agencies, private companies, and even NGOs. Therefore, it is essential to establish partnerships with external organizations to promote research collaborations, enhance funding opportunities, and expand the research scope. Additionally, communication of research is an essential component of institutional outreach and has, over the years, become professionally driven.

The team works closely with researchers to identify their research needs and match them with the capabilities and interests of potential external partners. They facilitate initial contact, establish communication channels, and coordinate meetings and discussions. They ensure that these agreements align with the institute's strategic goals and protect the institute's interests.

Furthermore, the team also helps to manage the partnership once established. They monitor the progress of collaborations, resolve any issues that arise, and ensure that the partnership is meeting its objectives. This includes developing regular progress reports, assessing the impact of the partnership on the institute's research programs, and ensuring that any potential risks are identified and mitigated.

5.1.1 Skills required within the team:

1. **Partnership development:** The personnel responsible for Developing External Partnerships should be able to identify potential external partners, build and maintain relationships with them, and establish collaborations and partnerships that align with the institute's research priorities and strategic goals.
2. **Research strategy communication:** The personnel should have a good understanding of the research needs and capabilities of the institute, and be able to effectively communicate this to potential partners. They should also be able to negotiate and manage partnership agreements, and oversee the implementation of collaborative projects.
3. **Interpersonal skills:** Furthermore, the personnel should possess excellent communication and interpersonal skills to engage with external partners from diverse backgrounds, cultures, and sectors. They should also be proactive and able to identify emerging trends and opportunities for partnerships.

Developing External Partnerships requires skilled personnel with a combination of research knowledge, networking skills, negotiation skills, and strategic thinking abilities, who can represent the institute and contribute to the growth and success of its research strategy.

5.2 Managing Internal Resources:

The RMO plays a vital role in managing the internal resources such as personnel, infrastructure, and budget, to ensure that research activities are carried out smoothly and efficiently with the ultimate aim of achieving the institution's research goals and objectives.

One of the main aspects of managing internal resources is research management. This involves developing and implementing policies and procedures for managing research projects, ensuring compliance with ethical and regulatory requirements, and promoting good research practices. Additionally, infrastructure management is another activity that falls under the purview of the RMO and involves ensuring that research facilities are maintained, updated, and equipped with state-of-the-art technology to support research activities.

5.2.1 Skills required within the team:

1. **Research Management:** Strong understanding of research management principles and best practices. This includes experience in managing research projects, understanding of research methodologies and data analysis, and knowledge of research ethics and compliance.
2. **Grants and Budget Management:** Experience in managing grants and contracts, including writing grant proposals, negotiating contracts, and monitoring grant performance in addition to possessing strong legal skills. It is also essential have a strong understanding of the regulations and policies governing grants and contracts management.
3. **Intellectual Property, Technology transfer & Licensing:** Strong understanding of intellectual property and technology transfer. This includes experience in drafting and negotiating IP agreements, identifying commercialization opportunities, and working with industry partners to bring research to market.
4. **Regulations and Policies:** Deep understanding of research ethics and compliance regulations and policies. Capability to manage compliance with human subjects research regulations, animal research regulations, and other research-related regulations.
5. **Strategy and Planning:** Experience in developing and implementing research strategy and planning. This includes conducting needs assessments, identifying research priorities, and developing strategic plans that align with the institution's mission and goals.
6. **Communication and Stakeholder Engagement:** Excellent communication skills and the ability to engage stakeholders across the institution, including faculty, staff, students, and external partners. Ability to effectively communicate research management policies and procedures, and collaborate with stakeholders to develop and implement research management initiatives.
7. **Facility Management:** Expertise in facility management, lab operations, and technology management are essential for ensuring the smooth functioning of research infrastructure. Experience in managing and maintaining research labs and equipment, ensuring safety protocols are followed, and procuring new technology and equipment as needed.

Overall, it is crucial to have specialist personnel for the tasks at hand to ensure the following:

1. Trained professionals perform said tasks
2. Workload is managed appropriately
3. High quality output

4. Prevention of dual roles taken up by academic personnel

It is crucial to note that non-academic research support roles generally draw from two qualification/ experience streams. In terms of managing internal resources, personnel with a PhD as their basic qualification are preferred because of their familiarity with the research cycle, having first-hand experience themselves. They possess a comprehensive understanding of the research process and are therefore better equipped to make informed decisions. In terms of developing external partnerships, personnel with networking and partnership building are preferred due to their ability to identify collaboration opportunities, negotiation skills and effective communication skills.

A few examples of research management job descriptions as advertised by select Indian research institutions can be found using the following links:

1. [Research Manager](#) at Sponsored Research and Consultancy Division (SCRD) at BITS Pilani.
2. [Program Manager](#) at NCBS, TIFR.
3. [Grants Manager](#) at IISc, Bangalore.

The job descriptions explain the skills, desired academic qualifications, roles and responsibilities and payscales of research management job opportunities in Indian academic institutions. Sample Job descriptions prepared for the roles envisioned at the RMO can be found in **Annex 2**.

Chapter 6

Processes

Research processes in an academic/research institution involve several stages, including the development of research proposals, the management of funding, the conduct of research activities, and the publication of research findings. The institution should have established processes and procedures for each of these stages, such as guidelines for grant proposal preparation, procedures for ethical review of research projects, and procedures for the dissemination of research findings.

As per the scope of this paper, we shall focus on the processes necessary for the functioning of the RMO. The processes are categorised as per different levels- Planning, Execution and Monitoring & Evaluation. Each level focuses on different aspects of processes and the tasks involved therein.

It is important to note here that the facilitation of these processes should be done by the RMO but is not restricted to them. Researchers may themselves create workflows better suited to their needs. However, it is essential to provide a framework if it does not exist. It is also important to clarify that the aim of the RMO should always be to facilitate research activity rather than control or dictate it. Processes mentioned below should only serve as examples of best practices to be followed to create an environment that the researcher feels empowered and unburdened to work in.

Table 2: Processes in the RMO

Planning	
Task	Best practices / Resources for reference
<p>Develop a Research strategy and policy framework: Outline the vision, scope and objectives of research activities of the academic/ research institution.</p> <p>Such an exercise would require setting up an expert committee with relevant stakeholders such as faculty members, researchers, research administrators, and representatives from other relevant departments such as legal, finance, and compliance.</p>	<ol style="list-style-type: none"> 1. Stanford University in California, USA presents an ideal example to take a cue from in terms of rallying the community (stakeholders) to formalise the vision and mission of the academic institution. Their process can be found here. 2. The strategy used by UK Research and Innovation (UKRI) is based on a 5-year plan (Transforming Tomorrow Together 2022 to 2027 is the latest one). Their research vision is based on 5 predefined strategic themes and can be accessed here.
<p>Create an effective Research Management ecosystem: Provide reference and training material for Research Management professionals</p>	<ol style="list-style-type: none"> 1. 'Improving your Research Management' by Prof. Alan M Johnson. 2. The Research Management Handbook by

	Southern African Research and Innovation Management Association (SARIMA).
<p>Develop procedures and guidelines:</p> <ol style="list-style-type: none"> 1. Proposal development: Guidelines for developing a proposal, such as identifying funding sources, developing a budget, and ensuring compliance with relevant policies and regulations. 2. Grant management: Procedures for managing grant awards, such as budget tracking, progress reporting, and ensuring compliance with sponsor requirements. 3. Regulatory compliance: Procedures for ensuring compliance with relevant regulations and policies related to research, such as human subjects protection, animal welfare, and conflict of interest. 4. Data management: Procedures for managing research data, such as data storage, data sharing, and data security, software to be used, existing digital platforms (public and private). 5. Intellectual Property Management: Develop policies and procedures for the management of intellectual property generated by research activities. 6. Training and development (for Research managers as well as Researchers): Procedures for providing training and professional development opportunities to Researchers, PI's and Research support staff. Identifying training needs, developing training plans, and evaluating training effectiveness. 7. Define Research Outcomes: Including the goals and objectives of the research project. The research outcomes should be clear, specific, and measurable to enable effective research project management. 8. Establish Metrics: Once the research outcomes are defined, the next step is to 	<ol style="list-style-type: none"> 1. Guideline documents should feature details on how to use portals and tools such as i-STEM, ISTI, Manthan developed by the government. 2. Samarth eGOV platform and TCS DigiGOV™ Fund Management Solution are portals that can be used by institutions to digitise their grant management processes. 3. The Research Ethics Review Board (RERB) at OP Jindal Global University has laid out guidelines for human subject based research and serves as a good model to replicate. Another model is UKRI's checklist on ethics applications for research on human subjects. 4. Zenodo (research data repository), Figshare (a cloud-based data management software), Dataverse (open-source software for research data sharing), DSpace (open-source software used for managing institutional repositories) 5. Massachusetts Institute of Technology in the USA has a comprehensively laid out Intellectual Property management policy and can be accessed here for cues. 6. Effective examples of researcher training organisations include the India Research Management Initiative (IRMI) by India Alliance and EMBO solutions. 7. The Research Excellence Framework is a system for assessing the quality of research in UK higher education institutions. REF indicators can be a good example to work backwards and create clear and measurable research outcomes. 8. The metrics should align with the research outcomes and be specific, measurable,

<p>establish metrics for measuring the success of the research project. The metrics should be established in collaboration with the research team members and stakeholders to ensure buy-in and accountability.</p> <p>9. Dissemination of Research Findings: The findings of the research project should be disseminated to stakeholders and as such, requires a system to be established.</p>	<p>achievable, relevant, and time-bound (SMART).</p> <p>9. Identifying and communicating with/ at academic journals, conferences, and presentations. Planning for newsletters, annual reports, etc.</p>
Execution	
Task	Best practices / Resources for reference
<p>Provide support: for activities such as research proposal development, grant management, regulatory compliance, data management and intellectual property management through digital portals and in-person guidance wherever necessary.</p>	<p>A sample Project management framework is provided in Annex 3. A number of online resources can also be used to learn techniques to manage research projects effectively, such as Cubisma and Project Smart.</p>
<p>Monitor Progress: Regularly towards achieving research outcomes. The progress should be monitored using the established metrics to ensure that the research project is on track to achieve the desired outcomes.</p> <p>Progress should be communicated regularly to the research team members and stakeholders to enable timely interventions and adjustments. Data collection and analysis should be given importance and use of digital portals should be the norm.</p>	<p>Research information management systems (RIMS) like Researchfish and Pure.</p> <p>Electronic lab notebooks (ELNs) like LabArchives and Benchling.</p> <p>The University of Oxford uses a RIMS called Symplectic Elements to manage and report on research activities.</p>
<p>Conduct workshops and sessions: Introducing guidelines and regulations as induction training programs. Ideally, these sessions should be conducted at the beginning of the academic session and be available on a digital portal for future reference. However, staff should also be available to clarify doubts in person when required.</p>	<p>Check out the training calendar for the University of Oxford support to researchers here.</p>
<p>Build Research Management capacity: Research managers need to be trained themselves and subsequently conduct regular training sessions on identified topics such as Grant writing, Negotiation, Communication, Science communication, and Stakeholder management, to name a few.</p> <p>Survey sample size regularly to identify</p>	<p>The Office of Research Services at the University of Oxford, UK is a prime example of an effective research management organisation due to its comprehensive support to researchers throughout the research cycle, from proposal development to project management and dissemination.</p> <p>Digital Science is an exemplary illustration of such an organisation that extends assistance to researchers, academic institutions, and even</p>

<p>training needs in addition to identifying market trends.</p>	<p>funders through specially crafted digital portals. These portals furnish services such as grant management, research library support, publishing support, funder support, peer reviews, and several other services.</p>
Monitoring and Evaluation	
Task	Best practices / Resources for reference
<p>Define objectives and the indicators: that will be used to measure progress toward those objectives.</p> <p>These may include indicators related to grant funding, proposal development, compliance, and other key areas.</p>	<p>The Planning, Monitoring and Evaluation Framework developed by ESSENCE as a part of its Good practice document series presents a comprehensive guide to building effective monitoring and evaluation plans.</p> <p>A sample Monitoring and Evaluation plan is given in Annex 4.</p>
<p>Define framework for Impact Evaluation: simply stating goals and objectives and evaluating their completion is not enough. It is the responsibility of the institute to assess the impact of its research output and communicate the same to all relevant stakeholders and even the general public keeping in mind their Scientific Social Responsibility (SSR) requirements.</p> <p>Such an exercise also seeks to provide evidence of strategic goals of the institution being accomplished and build trust among stakeholders leading to development of new partnerships in addition to solidifying existing ties.</p>	<p>Snowball Metrics is a framework and a set of tools that enables research organizations to evaluate the impact of their research and track their performance over time. It identifies five dimensions of research impact: academic impact, societal impact, economic impact, public engagement, and collaboration.</p> <p>Australia's national science agency, Commonwealth Scientific and Industrial Research Organisation (CSIRO) functions under a set of well defined impact evaluation metrics that can be accessed here for a step-by-step guide on how to build an impact evaluation process for an organisation. CSIRO impact evaluation focuses on measuring scientific, economic and environmental impact.</p> <p>A sample Impact Evaluation plan is given in Annex 5.</p>
<p>Regular reporting: on activities and outcomes to stakeholders, such as researchers, administrators, and funders, and communicate the results of its monitoring and evaluation activities.</p>	<p>CSIRO's Annual Impact and Value reports present an ideal example to follow and showcase research outcomes and impact to the public.</p> <p>The University of Oxford's Annual Report is an idea example on how to make interactive and visually pleasing annual reports and is a far cry from the generally mundane templates followed by most institutes.</p>

Chapter 7

Incentives

This crucial component of the framework refers to the policies, practices, and systems in place to motivate and reward individuals and teams for their contributions to the organization's mission and objectives. Incentives play a critical role in motivating and retaining skilled personnel in an organization.

FAST India's [survey](#) on Research functionalities support has shown that India has a relatively small community of Research management professionals. Survey results also show they have few career progression opportunities and most personnel in these roles are not satisfied with the remuneration they receive for their services. It is a matter of concern that these roles are not yet mainstream in India but have a significant impact in how research is conducted at institutions. Extra mural fundraising, capacity building of fellow researchers, managing government grants and in general providing a conducive environment for research to flourish at institutions are some of the success stories as indicated by the survey. It is therefore extremely essential that policies for incentivising non-academic research support activities are laid down at the outset.

Institutions that establish or revamp their research management structures should prioritize understanding the motivators that attract research management professionals. Providing incentives not only helps to retain talented professionals but also attracts more to the institution. Therefore, it is crucial for academic/research institutions to pay close attention to incentivization as a means to enhance their RMO.

7.1 Building an incentive program

Career progression opportunity, increased paycales, positions similar/ a par with academic positions

1. **Alignment with Organizational Objectives:** Incentives should be aligned with the institution's objectives and goals to ensure that they are promoting the desired behaviors and outcomes.
2. **Clear and Measurable Metrics:** Incentives should be tied to clear and measurable metrics that can be easily tracked and evaluated to ensure they are effective.
3. **Equity and Fairness:** Incentives should be equitable and fair, ensuring that all individuals have an equal opportunity to be rewarded for their contributions.
4. **Transparency and Communication:** Incentive policies and procedures should be transparent and well-communicated to all employees to avoid confusion and ensure that individuals understand what is required to earn rewards.
5. **Flexibility:** Incentive frameworks should be flexible enough to accommodate different types of employees and their respective contributions to the organization.

For instance, non-academic research support staff should have a comparable incentive and promotion framework to the academic staff.

6. **Sustainability:** Incentive programs should be sustainable over the long-term and not negatively impact the organization's finances or other resources.

7.2 Global examples:

1. [MIT Industrial Liaison Program \(ILP\)](#) is a program that aims to facilitate collaboration and knowledge transfer between MIT researchers and industrial partners. The ILP includes a revenue sharing program that allows MIT to share in the commercial success of technology developed through the program.

The **Revenue Sharing Program** is intended to incentivize both MIT researchers and industrial partners to collaborate more closely and to help ensure that technology developed through the ILP is successfully commercialized. Under the ILP policy, 10% of the gross revenue received each year is distributed at year's end among MIT faculty and staff who participate in the activities of the ILP. The Revenue Sharing funds, which are administered by the individual departments, laboratories, and centers, are for use by the faculty and staff for professional development. By providing a financial incentive for both parties to work together, the revenue sharing program helps to bridge the gap between academic research and commercialization.

2. Another such example is the University of California, San Francisco (UCSF) that has a program called the [Industry Contracts Division \(ICD\) Incentive Plan](#). Under this plan, members of the ICD are eligible for an incentive payment based on the total value of industry-sponsored agreements they negotiate and execute. The payment is a percentage of the total revenue generated from these agreements, with higher percentages awarded for larger agreements. This program incentivizes the ICD team to negotiate and execute high-value industry agreements, which in turn generates revenue for the institution.

A sample incentivisation matrix can be found in **Annex 6**.

Chapter 8

Network

This component of the organisational framework refers to the various collaborations and partnerships that an institution has with external entities. This includes collaborations with other academic institutions, industry partners, government agencies, non-governmental organizations, and international organizations.

Networks are essential for an institution's success as they provide access to resources, funding, expertise, and opportunities for collaboration. Networks can help an institution expand its reach, increase the impact of its research, and improve the relevance of its work to society. The network component of the framework can be further broken down into the following elements:

Table 3: Components of Network building at institutions

Component	Best practices/ Resources for reference
<p>Internal networking:</p> <p>1. Across Stakeholders: Ensure communication between all relevant stakeholders (researchers, research support staff, faculty, PIs, departments) of the institute</p> <p>2. Across Units: Ensure communication between functioning units of the institution such as Administration, Central institute management, Research Management Office, Internal Quality Assurance Cell, Alumni cell, Admissions and Hiring cell, Digital infrastructure management.</p>	<p>Regular meetings and check-ins, use of intranet tools such as SharePoint, Drupal, Confluence.</p>
<p>External Collaborations: With other institutions, government agencies, industry partners, international organisations and even non governmental organisations for joint research, technology transfer, collaborative funding,</p>	<p>InvenTive 2022- IIT R&D fair, IIT Bombay CSR conclave 2022, SINE at IIT Bombay, SID at IISc Bangalore, BMGF Global Grand Challenges, SPARC program- UK-India Education and Research Initiative</p>
<p>Outreach: Participation in conferences, hosting events, and developing communication strategies to engage with stakeholders.</p>	<p>Scientific Social Responsibility (SSR) as envisioned by the Department of Science and Technology (DST) is aimed at encouraging scientists, researchers and the R&D ecosystem to engage with society to address pressing social issues through scientific research, capacity and skill building and knowledge-sharing.</p>
<p>Alumni Network: Typically not under the purview of the RMO, Alumni networking is an essential part of mobilising former students to develop and maintain a relationship with their alma mater.</p>	<p>Harvard University Alumni, MIT Alumni</p>

A sample structure of Networking activities is provided in **Annex 7**.

Chapter 9

Culture

This component of the organisational framework refers to the shared values, beliefs, attitudes, behaviors, and norms that shape the organization's work environment and influence the behavior of its members.

In the context of the RMO, the culture should promote a research-oriented mindset and a collaborative and inclusive approach towards achieving research goals. It should encourage innovation, risk-taking, and continuous learning to improve the quality of research management processes and outcomes. A positive research culture can attract and retain talented researchers and research management professionals, enhance collaboration with external partners, and foster a supportive work environment.

Activities that can promote a positive research culture in the RMO at an Indian academic/research institution include:

1. Establishing a **code of conduct** and ethical **guidelines** for research management professionals to promote integrity and transparency in research practices.
2. Encouraging **regular interactions and knowledge-sharing** among research management professionals through workshops, seminars, and informal meetings.
3. **Recognizing and rewarding** the contributions of research management professionals and researchers towards achieving research goals.
4. Fostering a **diverse and inclusive work environment** that values and respects individual differences and perspectives.
5. Encouraging research **collaborations and partnerships** with external stakeholders to enhance research outcomes.
6. Providing opportunities for **career growth and development** to research management professionals such as trainings, skill development programs to motivate them to stay and contribute to the institution's research goals.
7. Regular **town hall meetings** with senior leadership to discuss the institution's mission and values, as well as updates on research management activities.
8. **Team-building activities**, such as retreats and social events, to foster collaboration and teamwork.

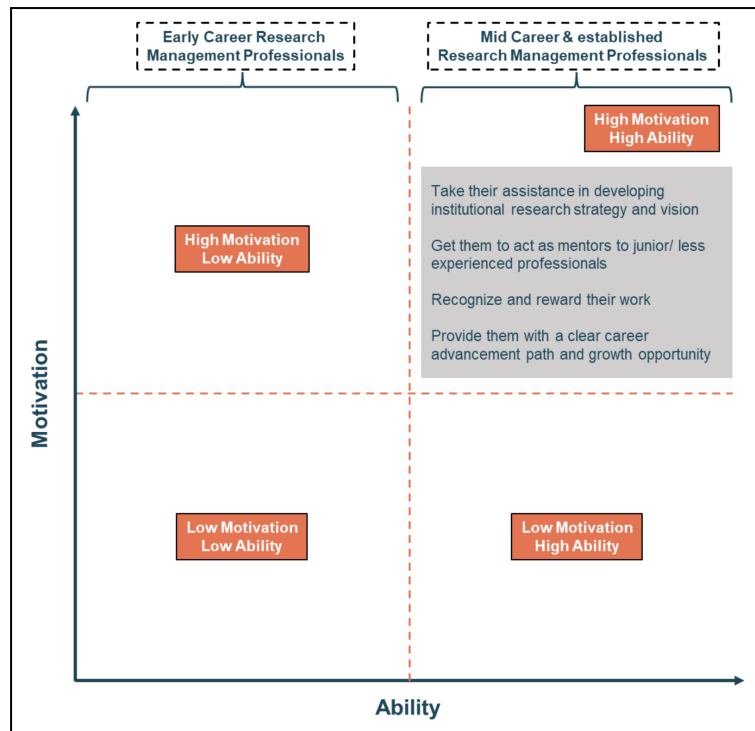


Figure 6: Developing the RMO culture

The above figure serves as a guide for the Dean/Director of R&D in an institute to understand the team composition required to establish or hire for a RMO. It also emphasizes how to motivate and develop research management professionals to maintain a research-oriented mindset within an institution. This is crucial as FAST India’s Research Support Functionalities [survey](#) findings highlight the lack of career progression opportunities and relevant professional skill development in Indian institutions. Therefore, the inclusion and continuous development of such professionals are the building blocks to ensure their growth and that of the institution.

A report by Hanover Research titled “[Building a Culture of Research: Recommended Practices](#)” talks about the practices for developing a culture of research in higher education institutions. The report comprehensively examines the role of Institutional, Individual and Leadership characteristics on developing an institute’s research culture. Their framework can be found in **Annex 8** and can be remodeled to suit any research-oriented institution’s ideology.

Chapter 10

Conclusion

The research management profession is rapidly evolving in India, and it is essential for academic and research institutions to embrace the changes and adopt innovative strategies to achieve their goals. This brief has provided an overview on how to develop and adopt effective research management practices while also highlighting key considerations and opportunities.

By adopting best practices from across the world and leveraging technology, Indian institutions can develop a comprehensive framework for research management that aligns with their specific needs and objectives. Moreover, effective implementation of the proposed framework will require the active involvement and collaboration of all stakeholders, including researchers, administrators, policymakers, and funding agencies. By working together towards a shared vision of excellence in research, Indian institutions can realize their full potential and make significant contributions to the global knowledge economy.

Chapter 11

Checklist for RMO

Framework	What to create	Checklist
Structure	1. Hierarchy & reporting lines 2. Organisational structure a. Director- Research Management Office b. Manager- Research Strategy & Planning c. Manager- Research Ethics & Compliance d. Manager- Grants & Contracts e. Manager- IP & Commercialization f. Manager- Research Communication & Outreach 3. Roles and Responsibilities 4. Key Performance Indicators	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/> e <input type="checkbox"/> f <input type="checkbox"/> 3 <input type="checkbox"/> 4
People	Skilled workforce with adequate and relevant experience in the following non-academic research support roles: 1. Developing External Partnerships a. Building partnerships with government and corporates for sponsored research / consultancy projects b. Raising funds from external sources c. Research communication and Outreach d. Building international collaborations 2. Managing Internal Resources a. Research Strategy & Infrastructure management b. Research management professional c. Grants and Contracts expert d. Ethics and Compliance expert e. IP & Commercialization expert	<input type="checkbox"/> 1 <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/> 2 <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/> e
Processes	1. Research Strategy 2. Data collection and management tools 3. SOPs and guidelines for Research management constituents a. Proposal development b. Grant management c. Regulatory compliance d. Data management e. IP management f. Training and development g. Research communication h. Success metrics 4. Monitoring progress and reporting 5. Monitoring and Evaluation plan 6. Impact assessment plan	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> a <input type="checkbox"/> b <input type="checkbox"/> c <input type="checkbox"/> d <input type="checkbox"/> e <input type="checkbox"/> f <input type="checkbox"/> g <input type="checkbox"/> h <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Incentives	Build an incentive program aligned with the institute's objectives and mission. The incentive program should have a mix of financial and non-financial incentives such as: 1. Performance based incentives 2. Professional Development Opportunities 3. Flexible Work Arrangements 4. Career Advancement Opportunities 5. Rewards and Recognitions 6. Health and Wellness Benefits	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6
Network	1. Internal Networking 2. External Collaborations 3. Outreach activities	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3
Culture	Institutionalise the following as practices: 1. Code of conduct/ Ethical guidelines 2. Regular interactions/ knowledge sharing practice 3. System of rewards and recognitions 4. Diversity and inclusivity in work environment 5. Encourage external collaborations 6. Practices for career growth and development 7. Interactions with leadership/ feedback sessions 8. Accountability and high quality deliverables	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8

Chapter 12

Annexures

Annex 1: RMO KPIs

Position	Responsibilities	Key Performance Indicators
Research Management Office	<ol style="list-style-type: none"> 1. Oversee the functions of the office 2. Ensure that research activities are conducted in compliance with institutional and ethical guidelines 3. Develop and implement a research strategy for the institute 4. Identify areas of research focus 5. Allocate resources for research activities 6. Manage the institutional review board (IRB) process 7. Secure funding opportunities for research activities 8. Promote the research activities of the institute to internal and external stakeholders 	<ol style="list-style-type: none"> 1. Research strategy implementation: Measure the successful implementation of the institute's research strategy through the development and achievement of key research milestones. 2. Research ethics and compliance: Measure the adherence to institutional and ethical guidelines through the number of research activities that have been reviewed and approved by the appropriate authorities. 3. Grant and contract acquisition: Measure the success rate of grant and contract acquisition through the number of successful proposals and contracts secured. 4. Commercialisation of research outcomes: Percentage of intellectual property disclosures and patent applications that result in commercialization or licensing agreements. 5. Research communication and outreach: Measure the visibility and awareness of the institute's research activities through media coverage, social media engagement, and conference presentations.
Research Strategy and Planning	<ol style="list-style-type: none"> 1. Develop and implement the institute's research strategy 2. Identify areas of research focus for the institute 	<ol style="list-style-type: none"> 1. Number of strategic plans and initiatives developed or updated each year, including long-term strategic plans, annual operating plans, and other strategic initiatives. 2. Number of partnerships and collaborations established or strengthened with other

	<ol style="list-style-type: none"> 3. Develop and implement research plans for each research activity 4. Allocate resources for research activities 	<p>institutions, organizations, or businesses as a result of strategic planning and initiatives.</p> <ol style="list-style-type: none"> 3. Number of competitive analyses and market research studies conducted to inform strategic planning and decision-making. 4. Number of innovation and entrepreneurship initiatives developed or supported to promote the commercialization of research and intellectual property.
<p>Research Ethics and Compliance</p>	<ol style="list-style-type: none"> 1. Ensure that research activities are conducted in compliance with institutional and ethical guidelines 2. Manage the IRB process for all research activities at the institute 3. Develop policies and procedures to ensure compliance with relevant regulations 	<ol style="list-style-type: none"> 1. Percentage of research studies that have undergone ethical review and approval by the institution's ethics committee before commencing. 2. Number of research ethics violations reported each year, including cases of non-compliance with institutional policies, regulatory requirements, or ethical standards. 3. Number of training sessions organized for researchers and staff members on research ethics and compliance. 4. Percentage of researchers and staff members who complete research ethics and compliance training each year. 5. Number of policies and procedures developed or updated to ensure compliance with institutional policies, regulatory requirements, or ethical standards. 6. Percentage of research studies audited for compliance with institutional policies, regulatory requirements, or ethical standards.
<p>Grants and Contracts</p>	<ol style="list-style-type: none"> 1. Identify funding opportunities for research activities from external sources 2. Support researchers in developing grant proposals 3. Manage contracts for research activities 	<ol style="list-style-type: none"> 1. Number of grant proposals submitted and awarded, including both internal and external grants, as well as the success rate of grant proposals. 2. Total value of grants and contracts awarded to the institution each year. 3. Average time from grant proposal submission to award notification. 4. Number of contracts negotiated and executed, including industry-sponsored research agreements, clinical trial agreements, and material transfer agreements.

		<ol style="list-style-type: none"> 5. Feedback from principal investigators and other stakeholders on the quality and timeliness of support provided by the grants and contracts office.
IP and Commercialisation	<ol style="list-style-type: none"> 1. Identifying and assessing the value of intellectual property, filing patents, negotiating licensing agreements, and managing patent portfolios 2. Assessing the commercial potential of research outputs, identifying potential licensees, negotiating licensing agreements, and supporting the development of spin-out companies. 	<ol style="list-style-type: none"> 1. Average time from invention disclosure to execution of a technology transfer agreement 2. Number of patents filed, granted per year 3. Percentage of licensed IP generating revenue for the institution 4. Percentage of commercialisation opportunities that result in executed licensing agreements or spin-out companies 5. Amount of revenue generated from licensed IP per year
Research Communication and Outreach	<ol style="list-style-type: none"> 1. Develop and implement communication strategies to increase awareness of the institute's research activities 2. Promote the institute's research activities to internal and external stakeholders through various channels such as conferences, media, and publications 	<ol style="list-style-type: none"> 1. Number of research articles, white papers, and other publications produced by the institution's researchers and staff members. 2. Number of mentions or citations of the institution's research in the media, including print, online, and broadcast media. 3. Number of social media followers and engagement rates on the institution's social media platforms, including Twitter, Facebook, Instagram, and LinkedIn. 4. Number of events organized by the institution to promote its research, including conferences, workshops, and seminars, as well as attendance rates and feedback from participants. 5. Number of collaborations established with other institutions, organizations, or businesses as a result of research communication and outreach efforts.

Annex 2: Sample Job descriptions

Job Title: Director, Research Management Office

Job Summary:

The Director of the RMO will lead the development and implementation of policies, procedures, and programs to support the research activities of the institution. The Director will work closely with faculty members, researchers, and staff to provide comprehensive research support services, including grant and contract administration, intellectual property management, research ethics and compliance, and research communication and outreach. The Director will also oversee the development and implementation of strategic plans and initiatives to promote research excellence and innovation.

Key Responsibilities:

- Develop and implement policies, procedures, and programs to support the institution's research activities, including grant and contract administration, intellectual property management, research ethics and compliance, and research communication and outreach.
- Work closely with faculty members, researchers, and staff to provide comprehensive research support services, including proposal development, budget planning, compliance oversight, and post-award management.
- Oversee the management of research grant and contract applications, including the review and submission of proposals, negotiation of agreements, and monitoring of award compliance.
- Manage the institution's intellectual property portfolio, including the identification and assessment of patentable inventions, the filing and prosecution of patent applications, and the negotiation of licensing and commercialization agreements.
- Ensure compliance with ethical and regulatory standards governing research activities, including the oversight of institutional review board (IRB) protocols, conflict of interest disclosure, and data management plans.
- Develop and implement strategic plans and initiatives to promote research excellence and innovation, including the identification of new funding opportunities, collaborations with external partners, and the promotion of entrepreneurship and commercialization activities.
- Provide leadership and supervision to the RMO staff, including hiring, training, and performance evaluation.
- Develop and manage the RMO budget, including the allocation of resources to support research activities and the monitoring of expenditures.

Qualifications:

- A doctoral degree in a relevant field, such as science, engineering, or business administration.
- At least 10 years of experience in research administration or a related field, with a proven track record of successful grant and contract management, intellectual property management, and research compliance oversight.
- Strong knowledge of ethical and regulatory standards governing research activities, including federal regulations, funding agency policies, and institutional policies.
- Excellent communication and interpersonal skills, with the ability to work effectively with faculty members, researchers, staff, and external partners.
- Strong leadership and management skills, with the ability to develop and implement strategic plans and initiatives and to lead a team of professionals.
- Strong analytical and problem-solving skills, with the ability to analyze complex data and information and to develop effective solutions to support research activities.
- Excellent organizational skills, with the ability to manage multiple projects and priorities and to meet deadlines in a fast-paced environment.

Job Title: Manager, Research Strategy and Planning

Job Summary:

The Manager of Research Strategy and Planning will be responsible for developing and implementing strategic plans and initiatives to promote research excellence and innovation at the institution. The Manager will work closely with faculty members, researchers, and staff to identify new funding opportunities, develop research proposals, and promote interdisciplinary collaborations. The Manager will also be responsible for monitoring and reporting on research activities and outcomes to support continuous improvement. The Manager will report directly to the Director of the RMO.

Key Responsibilities:

- Develop and implement strategic plans and initiatives to promote research excellence and innovation, including the identification of new funding opportunities, collaborations with external partners, and the promotion of entrepreneurship and commercialization activities.
- Work closely with faculty members, researchers, and staff to identify research priorities and opportunities, develop research proposals, and support interdisciplinary collaborations.
- Monitor and report on research activities and outcomes, including funding sources, proposal submissions, awards received, publications produced, and intellectual property disclosures.
- Analyze data and information related to research activities and outcomes to identify areas for improvement and to develop effective strategies to support research excellence and innovation.
- Manage the institution's research database and information management systems to support data collection, analysis, and reporting.
- Provide training and support to faculty members, researchers, and staff on research strategy and planning, including grant proposal development, research project management, and data analysis.
- Represent the institution at national and international research conferences and events to promote research excellence and to identify new collaborations and funding opportunities.
- Collaborate with other departments and units within the institution, including the RMO, Sponsored Research, and Technology Transfer, to ensure alignment of research strategy and planning efforts with institutional goals and priorities.

Qualifications:

- A master's degree in a relevant field, such as science, engineering, or business administration.
- At least 5 years of experience in research strategy and planning or a related field, with a proven track record of successful grant proposal development, project management, and data analysis.
- Strong knowledge of funding sources and opportunities in the research field, including federal and private funding sources, and the ability to identify and pursue new opportunities.
- Excellent communication and interpersonal skills, with the ability to work effectively with faculty members, researchers, staff, and external partners.
- Strong analytical and problem-solving skills, with the ability to analyze complex data and information and to develop effective solutions to support research activities.
- Excellent organizational skills, with the ability to manage multiple projects and priorities and to meet deadlines in a fast-paced environment.
- Experience with research information management systems and data analysis tools.

Job Title: Manager, Research Ethics and Compliance**Job Summary:**

The Manager of Research Ethics and Compliance will be responsible for ensuring that all research activities conducted at the institution comply with ethical and regulatory requirements. The Manager will work closely with researchers, faculty members, and staff to provide guidance and support on ethical and regulatory issues related to research, including the protection of human subjects, the use of animals in research, and the responsible conduct of research. The Manager will also be responsible for developing and implementing policies and procedures to promote research integrity and to ensure compliance with relevant laws, regulations, and institutional policies.

Key Responsibilities:

- Develop and implement policies and procedures to promote research integrity and to ensure compliance with relevant laws, regulations, and institutional policies.
- Provide guidance and support to researchers, faculty members, and staff on ethical and regulatory issues related to research, including the protection of human subjects, the use of animals in research, and the responsible conduct of research.
- Review research proposals and protocols to ensure that they comply with ethical and regulatory requirements and institutional policies.
- Manage the institution's Institutional Review Board (IRB) and Animal Ethics Committee (AEC) to ensure that they operate efficiently and effectively and that they comply with relevant laws and regulations.
- Provide training and education on research ethics and compliance to researchers, faculty members, and staff.
- Conduct audits and assessments of research activities to identify areas for improvement and to ensure compliance with ethical and regulatory requirements.
- Develop and implement corrective actions to address identified deficiencies and to promote continuous improvement in research ethics and compliance.
- Serve as a liaison between the institution and regulatory agencies, including central departments of health and human services, the central food and drug administration, and the national department of Health, to ensure compliance with relevant regulations and requirements.

Qualifications:

- A master's degree in a relevant field, such as bioethics, law, or public health.
- At least 5 years of experience in research ethics and compliance or a related field, with a strong understanding of ethical and regulatory requirements related to research.
- Knowledge of federal regulations and guidelines related to human subjects research, animal research, and the responsible conduct of research.
- Excellent communication and interpersonal skills, with the ability to work effectively with researchers, faculty members, staff, and regulatory agencies.
- Strong analytical and problem-solving skills, with the ability to identify and address complex ethical and regulatory issues.
- Excellent organizational skills, with the ability to manage multiple projects and priorities and to meet deadlines in a fast-paced environment.
- Experience managing internal committees such as IRBs and AECs and familiarity with relevant regulations and guidelines.
- Experience providing training and education on research ethics and compliance.

Job Title: Manager, Grants and Contracts

Job Summary:

The Manager of Grants and Contracts will be responsible for managing the institution's grant and contract activities, including identifying funding opportunities, developing grant proposals, negotiating contracts, and ensuring compliance with grant and contract requirements. The Manager will work closely with researchers, faculty members, and staff to provide guidance and support on grant and contract activities and to ensure that all grant and contract activities comply with institutional policies and regulations.

Key Responsibilities:

- Identify funding opportunities from government agencies, foundations, and other organizations and work with researchers and faculty members to develop grant proposals that align with institutional research priorities.
- Develop and submit grant proposals and manage the grant application process, including preparing budgets, ensuring compliance with grant requirements, and negotiating award terms and conditions.
- Monitor grant and contract activities, including managing budgets, preparing financial reports, and ensuring compliance with grant and contract requirements.
- Provide guidance and support to researchers and faculty members on grant and contract activities, including compliance with institutional policies and regulations.
- Collaborate with the Office of Sponsored Research and other departments to ensure that all grant and contract activities are properly tracked and reported.
- Establish and maintain effective relationships with funding agencies, sponsors, and collaborators to facilitate successful grant and contract activities.
- Monitor changes in grant and contract regulations and requirements and ensure that institutional policies and procedures are updated accordingly.
- Provide training and education on grant and contract activities to researchers, faculty members, and staff.

Qualifications:

- A master's degree in a relevant field, such as business administration, finance, or accounting.
- At least 5 years of experience in grant and contract administration, with a strong understanding of grant and contract regulations and requirements.
- Knowledge of federal regulations and guidelines related to grant and contract administration.
- Excellent communication and interpersonal skills, with the ability to work effectively with researchers, faculty members, staff, and funding agencies.
- Strong analytical and problem-solving skills, with the ability to manage budgets, prepare financial reports, and negotiate contracts.
- Excellent organizational skills, with the ability to manage multiple projects and priorities and to meet deadlines in a fast-paced environment.
- Experience developing and submitting grant proposals and managing grant and contract activities.
- Experience with electronic grant submission systems and grant management software.
- Experience providing training and education on grant and contract activities.

Job Title: Manager, Intellectual Property (IP) and Commercialization

Job Summary:

The Manager of Intellectual Property and Commercialization will be responsible for managing the institution's intellectual property portfolio and commercialization activities, including identifying and protecting intellectual property, evaluating commercialization opportunities, and negotiating licensing agreements. The Manager will work closely with researchers, faculty members, and staff to provide guidance and support on IP and commercialization activities and to ensure that all IP and commercialization activities comply with institutional policies and regulations.

Key Responsibilities:

- Identify and evaluate the institution's intellectual property and determine strategies for protecting and commercializing IP.
- Draft and file patent applications, and manage the patent prosecution process to ensure the protection of the institution's IP.
- Manage the institution's IP portfolio, including monitoring patents and trademarks, and identifying potential licensing opportunities.
- Evaluate commercialization opportunities for the institution's IP and develop licensing and commercialization agreements with external partners.
- Negotiate licensing agreements, royalty rates, and other financial terms with external partners.
- Collaborate with researchers, faculty members, and staff to identify and develop new IP, and provide guidance on IP protection and commercialization.
- Establish and maintain effective relationships with external partners, including industry partners, investors, and other stakeholders.
- Provide training and education on IP and commercialization activities to researchers, faculty members, and staff.
- Monitor changes in IP and commercialization regulations and requirements and ensure that institutional policies and procedures are updated accordingly.

Qualifications:

- A master's degree in a relevant field, such as law, business administration, or technology management.
- At least 5 years of experience in IP management and commercialization, with a strong understanding of IP regulations and requirements.
- Experience in drafting and filing patent applications, and managing the patent prosecution process.
- Knowledge of licensing agreements and other legal documents related to IP commercialization.
- Excellent communication and interpersonal skills, with the ability to work effectively with researchers, faculty members, staff, and external partners.
- Strong analytical and problem-solving skills, with the ability to evaluate commercialization opportunities and negotiate licensing agreements.
- Excellent organizational skills, with the ability to manage multiple projects and priorities and to meet deadlines in a fast-paced environment.
- Experience in evaluating commercialization opportunities for new technologies and developing licensing agreements with external partners.
- Experience providing training and education on IP and commercialization activities.

Job Title: Manager, Research Communication and Outreach

Job Summary:

The Manager of Research Communication and Outreach will be responsible for managing the institution's communication and outreach efforts related to research and scholarship, with the goal of enhancing the institution's reputation and increasing the visibility of its research activities. The Manager will work closely with researchers, faculty members, and staff to develop and implement communication and outreach strategies, and will collaborate with internal and external partners to promote the institution's research achievements.

Key Responsibilities:

- Develop and implement communication and outreach strategies to promote the institution's research and scholarship activities.
- Develop and maintain relationships with internal and external partners, including researchers, faculty members, staff, media outlets, and other stakeholders.
- Identify and promote research achievements and impact stories to internal and external audiences through various channels, such as newsletters, press releases, social media, and events.
- Develop and implement plans for promoting research activities to potential funders, collaborators, and other partners.
- Work with researchers, faculty members, and staff to develop and produce high-quality research communication materials, such as research briefs, reports, videos, and presentations.
- Manage the institution's research website and social media accounts, ensuring that they are up-to-date and engaging for audiences.
- Organize and promote research-related events, such as seminars, conferences, and workshops, and provide support for event logistics.
- Monitor and evaluate the effectiveness of research communication and outreach efforts, and make recommendations for improvements.
- Provide training and support to researchers, faculty members, and staff on research communication and outreach best practices.

Qualifications:

- A master's degree in a relevant field, such as communications, marketing, or public relations.
- At least 5 years of experience in research communication and outreach, with a strong understanding of the research environment and the ability to communicate complex scientific concepts to diverse audiences.
- Excellent written and verbal communication skills, with the ability to produce high-quality research communication materials and engage with internal and external audiences.
- Strong interpersonal skills, with the ability to build relationships and work effectively with internal and external partners.
- Experience in managing websites and social media accounts, and using them effectively to promote research activities.
- Excellent organizational skills, with the ability to manage multiple projects and priorities and to meet deadlines in a fast-paced environment.
- Strong analytical and problem-solving skills, with the ability to evaluate the effectiveness of communication and outreach efforts and make recommendations for improvements.
- Experience in event planning and promotion.
- Knowledge of research funding and grant proposals.

Annex 3: Research Project Planning and Implementation guide

Framework	Description
Project Planning	<ol style="list-style-type: none"> 1. Identify the objectives, deliverables, timelines, and budget for the project. 2. Establish a project team, including project manager, principal investigator, and other team members as needed. 3. Develop a project plan, including a work breakdown structure, schedule, and budget. 4. Identify digital platforms that can aid the project throughout its lifecycle.
Project Execution	<ol style="list-style-type: none"> 1. Monitor project progress, including milestones, deliverables, and budget. 2. Identify and manage project risks, issues, and changes. 3. Coordinate project team activities, including communication, meetings, and reporting. 4. Ensure compliance with ethical, legal, and regulatory requirements.
Project Reporting	<ol style="list-style-type: none"> 1. Develop regular progress reports, including status updates, risks, issues, and accomplishments. 2. Provide regular communication to stakeholders, including sponsors, collaborators, and project team members. 3. Ensure timely and accurate reporting of project outcomes, including publications, presentations, and intellectual property disclosures.
Project Closure	<ol style="list-style-type: none"> 1. Evaluate project outcomes, including the achievement of objectives, deliverables, and impact. 2. Document lessons learned and best practices for future projects. 3. Ensure proper archiving and storage of project data and materials. 4. Close out project contracts and agreements, including financial reporting and final invoicing.
Quality Assurance	<ol style="list-style-type: none"> 1. Establish quality assurance procedures to ensure the accuracy and integrity of project data and results. 2. Conduct regular reviews of project data, materials, and reports to ensure compliance with institutional and funding agency policies. 3. Provide training and support to project team members to ensure compliance with quality assurance procedures.

Annex 4: M&E plan

Monitoring and Evaluation plan		Example
Broad Theme/ Vision		Build a digital capacity in a field of national importance
Monitoring	Goal/ Outcome (what to evaluate)	Build a new tool for cybersecurity
	Indicator (How to monitor)	Number of tool features
	Data Source (where data will come from)	Researcher data
	Responsible resource (who will capture/ own data)	Research/ Developer
	Frequency (how often will data be captured)	Weekly
	Measurable target	10 new features over existing tools
Evaluation	Evaluator (Who will evaluate)	Research/ Project manager
	Who will be evaluated	Research team
	When will the evaluation take place	Post development/ post release
	Impact of evaluation (Performance based incentives, etc.)	Possible Industry partnership based on capability of tool
	Reporting (where will results of M&E activity be published)	Newsletters/ Annual reports to carry details of project

Annex 5: Impact Evaluation plan

Impact Evaluation plan	Measurement indicators
Academic Impact	<ol style="list-style-type: none"> 1. Publications in high-impact journals 2. Citation counts 3. Peer-reviewed grant funding 4. Conference presentations
Societal Impact	<ol style="list-style-type: none"> 1. Policy changes affected 2. Community engagement 3. Public engagement events 4. Press coverage and media mentions
Economic Impact	<ol style="list-style-type: none"> 1. Industry partnerships and collaborations 2. Intellectual property (IP) and patents 3. Startups and spinoff companies 4. Licensing agreements
Public Engagement (Scientific Social Responsibility)	<ol style="list-style-type: none"> 1. Social media engagement and followers 2. Website traffic and engagement 3. Online media mentions 4. Community outreach events and activities
Collaboration	<ol style="list-style-type: none"> 1. Collaborative research projects with other institutions 2. Joint publications with other institutions 3. Joint grant applications and funding awards 4. Joint participation in conferences and workshops

Annex 6: Incentive plan

Incentive type	Metrics for measurement	Sample Bonus
Performance-based bonuses	<ol style="list-style-type: none"> 1. Number of successful grant applications 2. Number of successful technology transfers 3. Number of patents filed/ granted 	<ol style="list-style-type: none"> 1. Rs. X for achieving or exceeding a specific number of successful grant applications or technology transfers 2. Rs. Y for each patent filed 3. Z% of revenue received through licensing/ technology transfer
Professional development opportunities	Participation in relevant conferences, workshops, and training sessions	Paid attendance at a conference or training session related to work, including travel and accommodation expenses, up to a maximum of Rs. X per year.
Flexible work arrangements	Consistent achievement of performance targets	The ability to work from home X days a week or flexible working hours, such as starting and ending work earlier or later
Career advancement opportunities	Progression through career advancement paths and potential for advancement	<ol style="list-style-type: none"> 1. Promotion to a higher-level position with a salary increase of X% or salary and position at par with academic staff scales. 2. Eligibility for additional performance-based bonuses, as well as opportunities for professional growth, such as mentorship programs and leadership development programs.
Recognition and awards	Exceptional results or significant contributions to the institution	Public recognition, such as an award ceremony, and a certificate of appreciation, as well as a monetary bonus of Rs. X for outstanding performance or contributions to the institution.
Health and wellness benefits	Participation in health and wellness activities	Up to Rs. X per year in reimbursement for gym membership fees or wellness program fees, and access to group health insurance plans with premium contributions from the institution.

Annex 7: Networking activities

Networking	Activities
Industry-Academia Partnerships	<ol style="list-style-type: none"> 1. Organizing joint research projects with industry partners 2. Holding joint workshops with industry partners on research topics of mutual interest 3. Creating joint research centers with industry partners to foster collaboration 4. Hosting technology transfer forums to promote industry partnerships
Government-Academia Partnerships	<ol style="list-style-type: none"> 1. Participating in government research programs 2. Organizing joint policy seminars with government agencies 3. Providing research input to policymakers 4. Collaborating with government agencies on research projects
International Collaborations	<ol style="list-style-type: none"> 1. Collaborating on joint research projects with international research institutions 2. Hosting international conferences and symposia 3. Participating in international research consortia 4. Creating exchange programs for researchers and students with international institutions
Community Outreach	<ol style="list-style-type: none"> 1. Organizing public seminars and talks on research topics of public interest 2. Participating in community events to promote the institution's social impact 3. Promoting social entrepreneurship initiatives to engage with the local community 4. Collaborating with local NGOs and stakeholders on research projects that have a positive social impact. 5. Participating/ Hosting activities envisioned under the purview of Scientific Social Responsibility (SSR)

Annex 8: Culture development at the Institutional, Individual and Leadership level

Source: [Institutional Characteristics that Facilitate Research Productivity](#)

Characteristic	Description
Recruitment and selection	Great effort is expended to recruit and hire members who have the training, goals, commitment, and socialization that match the institution.
Clear coordinating goals	Visible, shared goals coordinate members' work.
Research emphasis	Research has greater or equal priority than other goals.
Culture	Members are bonded by shared, research-related values and practices, have a safe home for testing new ideas.
Positive group climate	The climate is characterized by high morale, a spirit of innovation, dedication to work, receptivity to new ideas, frequent interaction, high degree of cooperation, low member turnover, good leader/member relationships, and open discussion of disagreements.
Mentoring	Beginning and midlevel members are assisted by and collaborate with established scholars.
Communication with professional network	Members have a vibrant network of colleagues with whom they have frequent and substantive (not merely social) research communication, both impromptu and forma, in and outside of the institution.
Resources	Members have access to sufficient resources such as funding, facilities, and especially humans (e.g., local peers for support, research assistants, technical consultants).
Sufficient work time	Members have significant periods of uninterrupted time to devote to scholarly activities.
Size/ experience/ expertise	Members offer different perspectives by virtue of differences in their degree levels, approaches to problems, and varying discipline backgrounds, the group is stable, and its size is at or a above a "critical mass."
Communication	Clear and multiple forms of communication such that all members feel informed.
Rewards	Research is rewarded equitably and in accordance with defined benchmarks of achievement; potential rewards include money, promotion, recognition, and new responsibilities.
Brokered Opportunities	Professional development opportunities are routinely and proactively offered to members to assure their continued growth and vitality.
Decentralized organization	Governance structures are flat and decentralized where participation of members is expected.
Assertive participative governance	Clear and common goals, assertive and participative leadership where active participation of members is expected, and effective feedback systems are utilized.

Source: [Individual Characteristics that Facilitate Research Productivity](#)

Characteristic	Description
Socialisation	Understands the values, norms, expectations, and sanctions affecting established faculty (e.g., beneficence, academic freedom).
Motivation	Driven to explore, understand, and follow one's own ideas, and to advance and contribute to society through innovation, discovery, and creative works.
Content Knowledge	Familiar - within one's research area -with all major published works, projects being conducted, differing theories, key researchers, and predominant funding sources.
Basic and Advanced Research Skills	Comfortable with statistics, study design, data collection methods, and advanced methods commonly used in one's area.
Simultaneous Research Projects	Engaged in multiple, concurrent projects, so as to buffer against disillusionment if one projects stall or fails.
Orientation	Committed to both external activities (e.g., regional and national meetings, collaborating with colleagues) and activities within one's own organization (e.g., curriculum planning, institutional governance).
Autonomy and Commitment	Has academic freedom, plans one's own time and sets one's own goals, but is also committed to and plays a meaningful role within the larger organization.
Work Habits	Has established productive scholarly habits early on in one's career.

Source: [Leadership Characteristics that Facilitate Research Productivity](#)

Characteristic	Description
Scholar	Highly regarded as a scholar; serves as a sponsor, mentor, and peer model for other group members.
Research Oriented	Possesses a "research orientation"; has internalized the group's research-centered mission.
Capable Fulfils all Critical Leadership Roles	<ol style="list-style-type: none"> 1. Manager of people and resources 2. Fund-raiser 3. Group advocate 4. Keeps the group's mission and shared goals visible to all members 5. Attends to the many individual and institutional features that facilitate research productivity
Participative Leader	<ol style="list-style-type: none"> 1. Uses and assertive, participative style of leadership 2. Holds frequent meetings with clear objectives 3. Creates formal mechanisms and sets expectations for all members to contribute to decision making 4. Makes high-quality information readily available to the group 5. Vests ownership of projects with members and values their ideas