

STRATEGIES FOR ESTABLISHING RESEARCH CULTURE AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA: A PROJECT ACTION PLAN APPROACH AND CASE STUDY OF THE FACULTY OF SCIENCE

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A project action plan approach is useful in designing strategies to achieve goals in a business-like manner in a university system. Many academics approach activities as normal, more so if they are supposed regular activities. However, the attainment of success in any deal requires deliberate effort and well-thought strategies. In this era of high competition and dwindling funds for education, higher education institutions need to be innovative and deliberate in consciously determining strategies to attain set goals. Hence the project management approach is innovative and would be highly beneficial to the development of strategies that would help to cultivate a culture in a higher education institution.

The first step in the adoption of a project action plan is to undertake an environmental scan, whereby you will identify the strength, weaknesses, opportunities, and threats; commonly referred to as the SWOT analysis; but as well undertake a gap analysis in which you will identify your current situation and level of operation, determine the height you desire to attain (Creately, 2016). Determining the gap is helpful to guide the decision on how, when, and what you require to attain the desired height. Consequently, gap analysis and SWOT analysis are complementary.

This is particularly of significance where service provision determines your success as with the higher education institution. Also, when a culture is not in place, it becomes necessary to put strategies in place to get you to where you desire to be. Otherwise, without a deliberate effort, it may be difficult to achieve your purpose of development. It is paramount for managers of higher education institutions to be aware of this and to understand the relevance of a project management approach to institutional development. Consequently, this paper presents a project action plan matrix designed for the establishment and encouragement of a culture of applied research and strengthening the teaching of practical science at the Faculty of Sciences of the National Open University of Nigeria as a referral for the development of a project action plan for the establishment of a sustainable research culture at the National Open University of Nigeria.

The presented matrix would serve as a good guide in the development of project action plans for most projects in higher education institutions. Using a project action plan (PAP) matrix is particularly rewarding because it helps you detail your actions considering your peculiar environment. It will also guide your activities and provide a basis for monitoring and evaluation. Using Please note that the results of this project action plan have been published in Olaniyi (2019). However, this paper details the PAP matrix in hope that it would form a good reference document for many who desire change in their institution and as well be change agents.

Environmental Scan

Gap and SWOT analysis are useful procedures to help an organization increase visibility, better support strategy, and reach institutional goals. If you understand your institution's strengths and weaknesses, and gaps in attaining desired goals, you can better focus to attain the heights. While the SWOT analysis helps to assess the institution's strengths, weaknesses, opportunities, and threats, the gap analysis compares the actual level of performance of an institution to the desired level. Carrying out both techniques successively scans the internal and external environment of your institution and can ensure that the institution is better positioned for quality service delivery and student success. This will also help the university Management to identify the people, processes, and technologies that align with strategic goals and facilitate better communication and decision-making.

The environmental scan enables you to determine:

1. The strength of the university and each Faculty
2. What could be considered as a weakness of the university and the Faculty in attaining desired goals
3. Opportunities that could be explored in achieving your set goals and
4. Likely threats to your plan so you are informed ahead of time and have an alternate plan that would effectively weaken the strength of the perceived threat to achieving your goal.

For instance, expertise in each discipline may be part of your strength; opportunities to explore may be international linkages, alumni base, endowments, external research grants and funding especially those with a special focus on prevailing challenges in Africa, IDPs, climate change, digital education, etc. Facilities available for research could also be part of your strength/opportunities; available markets to recruit PG students (especially the large alumni base of the university) could be an important strength. The flexibility of the ODL systems, which makes the National Open University of Nigeria (NOUN) the first choice among many working-class citizens, could also be considered a strength.

The National Open University of Nigeria and Status of Research Work

Undertake an environmental scan of the extent and level of research ongoing by identifying the gap as well as the strength, weaknesses, opportunities within the institution and threats external to it that would affect the effectiveness of undertaking the level and category of research so desired. This would help to determine required tools, facilities and resources that must be provided to get to the goal that would be set.

Cultivating Research Culture at the National Open University of Nigeria

It would be more effective to have a University Research Committee in place to monitor the activities of the proposed structured plan to ensure adherence! In attempting to establish a research culture at the National Open University of Nigeria, it is necessary to first do an environmental scan with gap analysis and an analysis of the strength, weaknesses, opportunities of the system/institution, and threats (SWOT) that are external to the institution such as competition.

Each Faculty should prepare:

SWOT and Gap Analyses Hence, the Heads of Departments and Deans may need to be trained to guide them to undertake an environmental scan of their various departments and faculties!

Faculties should submit their SWOT and Gap analyses to the University Research Committee who reviews and comes up with harmonized analyses for the university.

Key tasks: Each group of activities to address a set goal should be determined and the tasks to achieve this goal are also specified. Then define a milestone that would ensure that the key task has been accomplished. It will be useful to encourage Departments to prepare a Project Action Plan (PAP) matrix

Milestones: as determinants of success are major progress points that must be reached to establish that you have attained success.

Action Plan: Each Dean should submit a Project Action Plan (PAP) to be critiqued. The reviewed PAP would be returned to Faculties and deadlines should be given for submission of updated

workable PAP. Timeline for the execution of PAP should be set and monitoring and evaluation plans should also be put in place.

Some Suggested Activities to help cultivate the culture of research at the University

1. Institute Faculty Seminar Series:

- Set up a Faculty Seminar Committee
- Only papers presented and approved at Faculty Seminar should be sponsored for conference attendance. Organize workshop training in winning grant proposal writing.
- Consciously organize research teams and encourage multi and interdisciplinary team building
- Senate Research Committee should develop guidelines for assessing Senate Research grants and should fund good research proposals, hence teams to be encouraged and mentored to produce fundable research proposals:
- Departments could institute weekly Seminar series to discuss current publications that present advances in research in their respective disciplines. This will help direct the thoughts of academics in fields of research and form research focus and interest. In this case, the Department can produce a roster for presentation by academics in the Department.
- Faculty could also form inter and multidisciplinary research groups (with membership across the various Departments) that would have seminars bi-weekly. They could also stimulate academic discuss by reviewing published work in their areas of interest.
- Faculties should institute monthly Seminar series where such groups or individuals can enlighten the Faculty on current advances in fields of research for development or present a research proposal for discussion.
- Monthly reports of Seminars within the Faculty (both at the Faculty level and across the Departments) should be submitted to the University Research Committee through the Dean.
- An annual Proceedings of Faculty Seminars should be produced to encourage participation.

- A reward system can be instituted to recognize scholarship by academics.
- This could be done by giving an award to the best researcher of the year for instance with several factors taken into consideration including but not limited to: publication in high-impact journals and total no. published annually by academics in Faculties should be submitted with copies of the publications, to the committee for consideration of an award.
- Conference paper presentation & quality of paper should be evaluated annually and an award given. ○ Research grant acquired will also be evaluated including monetary value and number.
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2. Conference attendance:

- Any paper to be presented in a conference must first have been presented at departmental/Faculty level and recommendation made before author could receive approval to present in the conference.
- To receive conference support, the author must have presented at the faculty level and the application submitted with minutes of the faculty seminar where it was presented.

- An academic applying for financial support or time away for a conference should route the application through due process, with a recommendation from the Chairman, Faculty Research and Seminar Committee, and the Dean of the Faculty.

3. Repository of research publications: should be developed by the university and academics should deposit their publications into it. Encourage academics to cite their peers in the Department, Faculty, and the University at large. This will increase the relevance of the work done by each; making these works readily accessible is important. Map a strategic research plan for the university and have it published with each Faculty's defined activities as presented by the Dean. This is to help guide activities and ensure focused action.

4. Postgraduate enrolment:

Develop competitive postgraduate curricula that would increase student enrolment for postgraduate studies. As focused postgraduate students' research increases with increased supervision by our academic staff, research activities in the university would be strengthened.

5. Funding of research and publication of research results in Q-rated journals with improved visibility:

The university should invest in funding quality research and institute research grants such as Senate Research Grant award, which should be guided by rules that would ensure that quality data are collected from well-thought research proposals and published in Q-rated journals. Also ensure that the projects are relevant and can be cited by many others in the university, that is they should engage in applied research that would be of direct benefit to the university.

Publishing in Q-rated journals and citing your publications would improve the university's visibility and build up the university's reputation as well as the academics'. Consequently, academics should be encouraged to share their publications with their peers in the university and encourage them to cite one another in subsequent publications. This means follow-up research should be encouraged so that problems are identified and resolved through research and

application; hence, research for development is embraced.

6. Execution, Monitoring, and Evaluation

- A workshop should be organized for all Deans (SPGS and Faculties) and University Research Committee members where each Dean would present his/her Project Action Plan (PAP), defend it, and receive approval before proceeding to execute.
- All Deans submit a regular report as execution commences. Research Committee should determine the regularity of the report and communicate appropriately. The report should specify why the target was not met and what is to be done to ensure that target is met.
- At execution, a Representative of the Ethics / Research Committee must be invited to the different activities (including Seminars, workshops, etc)
- At the end of a defined period, all Deans present their report in a workshop, and the level of execution would be evaluated.
- At this stage, an annual research report will be demanded, which the university would compile into its annual compendium.

Recommendations:

The success of any project depends largely on the buy-in of stakeholders, therefore, ensure that all stakeholders are properly sensitized to be sure of their support for the project. You must also identify what could be the threat to your project or factors that could compete with your set goals. This would help you plan to circumvent such and ensure your project's success. You must clearly define your objectives and project outcomes, which would be your guiding tools. The major features of the PAP are the key tasks and milestones, which must be clearly defined as they are instruments to determine the management and level of success of the project.

Please see below a Project-Action-Plan matrix, a strategic plan for the strengthening of teaching of practical science in Open and Distance Learning and establishing a sustainable culture of applied research at the Faculty of Sciences of the National

Open University of Nigeria. This strategic plan was developed and implemented, and the results are presented in Olaniyi (2019). Hence, the PAP presented here is a good reference material for strategy development and it would be useful to use the matrix together with the published result in Olaniyi (2019) so that the strategies that worked could be strengthened while those that failed could be further investigated to determine the cause; whether it was due to intrinsic factors or external factors, which could be corrected or better handled.

Project Action Plan (PAP) for Strengthening the Teaching of Practical Science in Open and Distance Learning and Establishing a Sustainable Culture of Applied Research at the Faculty of Sciences of the National Open University of Nigeria.

General objective of the Project Action Plan (PAP):

1. To ensure students are adequately exposed to science practical training in the open and distance learning (ODL) system,
2. To stimulate interest in applied research and allow academics to earn from their products,
3. To encourage research collaboration across global divide
4. To strengthen skills of academics in preparing learner-friendly learning materials
5. To enhance the visibility of the national Open University of Nigeria in capacity building and national development

Intended outcome/product of my PAP:

1. Memoranda of understanding between National Open University of Nigeria and selected (36) universities in Nigeria for laboratory practical
2. Multimedia materials (CD, online video, etc.) for science practical demonstration and teaching would be developed
3. MoU with universities in the global north (especially ODL institutions) for

access to Virtual laboratory facilities as well as other learning and research facilities

4. Interactive practical course materials would be developed and collaboration with other ODL institutions on course material development established
5. Products of science research would be available for showcasing at different forum
6. Increase in number of publications in high impact factor journals
7. Increase in number of faculty presenting their research results in local and international conferences, hence
8. Patents would be registered and subsequently, increase in number over time
9. Research and Development Roadmap 2018-2023 would be available for the Faculty
10. Philanthropists and industries support faculty research drive
11. Increased mobility of academic staff in the faculty and internationalization
12. Increased number of grant-winning proposals and development-focused applied research
13. Better visibility and enhanced advocacy for NOUN

Potential risks for my PAP I should be aware of:

1. University Management's position
2. Possible conflict of interest with some other units in the university responsible for academic planning and research coordination
3. Limited funds for research
4. Limited time for research due to the heavy academic and administrative workload of academic staff
5. Poor motivation of academics for high-impact, ground-breaking research due to poor research infrastructure
6. Delay in processes due to bureaucratic bottlenecks

The Project Action Plan Matrix for Strengthening the Teaching of Practical Science in Open and Distance Learning and Establishing a Sustainable Culture of Applied Research at the Faculty of Sciences of the National Open University of Nigeria.

Key task A: Build awareness / passion for teaching of practical science and applied research among stakeholders	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Brief the Vice-Chancellor (VC) about Part I of DIES training workshop in Germany and my PAP	Present PAP proposal and plan to VC	4/7/2017	Dean	Vice-Chancellor	Media and publicity personnel	1. Photographs of meeting 2. DVD of Video recording of meeting 3. Minutes of meeting
Task 2 Review PAP in line with discussion in Task 1 above	Update PAP	5/7/2017	Dean	None	Secretarial facilities	1. Reviewed proposal that incorporated VC's suggestions 2. Presentation slides reviewed as in 1. Above
Task 3 Meeting with would be collaborators on proposed collaborative research in line with plan earlier supported by Faculty Board in April, 2017 and approved by University Management	Led team of 3 from NOUN	6-7/9/2017	Dean	OOUK STEM Faculty Collaborators NOUN Team members	Travel grant Funds for organizing meeting, meals and Refreshments	1. E-mail communication trail 2. Invitation letters 3. Minutes of Faculty Board's deliberation and decision on collaboration proposal 4. Slides of presentations at collaborative workshop 5. Report of meeting 6. Identified collaboration interests Roles assigned among workshop participants 7. Agreed workplan 8. Resultant request for partnership with another team (UNISA-OOUK)
Task 4 Discuss outcome of collaborative	Present collaborative	11/7/2017	Dean	Vice-Chancellor	Secretarial facilities	1. Report submitted

workshops with Vice-Chancellor and identified areas of collaboration in training and research	research proposal					
Task 5 Interact with HODs and staff on training cadre on proposal for PhD training possibilities arising from collaborative workshop	Present reviewed plan	11/7/2017	Dean	HoDs Assistant Lecturers & other academic staff without PhD	Administrative staff Secretarial facilities	1. Record of meeting 2. Written briefs 3. Roles assigned 4. Committees formed 5. Staff enrolled for PhD
Task 6 Present outcome of collaborative workshop and plan to strengthen teaching of practical science and research with Faculty Board during statutory Board meeting	Chair meeting and direct activities	20/7/2017	Dean	Faculty Board	Refreshment	1. Minutes of meeting 2. Consent of Board
Milestone A: Stakeholders are sensitized on plan for enhanced teaching of practical science in open and distance education and the need to develop a culture of applied research at the Faculty of Sciences of the National Open University of Nigeria						

Key task B: Explore opportunities for partnership with developed institutions in the delivery of practical science in ODL	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Link-up ODL institutions in global north to learn delivery of practical science	Internet search	2/2017	Dean	Identified ODL institutions	1. Computer 2. Internet connectivity 3. Time	Online subscription Admission letter for webinar
Task 2 Receive invitation for partnership	Facilitate	/3/2017	Dean	Partners in STEM Faculty of OU, UK	1. Computer 2. Internet connectivity	1. E-mail communication and invitation for collaborative workshop
Task 3 Present Proposal to Vice-Chancellor for approval	Facilitate	22/3/2017	Dean	Vice-Chancellor	Secretarial facilities	2. NOUN Management's approval letter
Task 4 Present proposal to Faculty Board for deliberation and suggestions on partnership terms	Direct meeting	20/4/2017	Dean	Faculty Board	Refreshment Secretarial facilities	1. Minutes of meeting 2. Extracts of decision reflecting suggestions made by Board
Task 5	Invitee	28/6/2017	Coordinator, OU Alliance	Dean	Internet access	1. E-mail invitation /

Invitation for additional presentation on research networking experience with global north countries at an OU Alliance GCFR conference at OU,UK			GCFR Conference			communication trail 2. Programme of activities
Task 6 Interaction with Vice-Chancellor for brief on discussions at OU and goodwill message from the VC	Anchor	3/7/2017	Dean	Vice-Chancellor	Cameras, Video recording, personnel of media and publicity unit	1. Still photos 2. Recorded goodwill message of the Vice-Chancellor for the OUUK
Task 7 Faculty Seminar on presentations of overview of the FOS, NOUN for the collaborative workshop	Facilitate	4/7/2017	Dean	NOUN's two team members Faculty Board	Faculty Board, Multimedia projector	1. Power point presentation slides for the three team members 2. Likely interactive methods of teaching practical science identified by Faculty Board discussed
Task 8 NOUN team visits OU for collaborative workshop	Lead NOUN team	6-7/7/2017	Dean	NOUN Team members; STEM Faculty partners, OU Alliance GCFR Conference organizers	Fund provided by partners with minimal contribution from NOUN Management	1. Report of workshop 2. Photographs and video shots 3. Methods used by OU in teaching practical science highlighted. 3. Possibility of collaboration through adoption of OU technology customized for Nigeria identified 2. Joint research project areas identified 4. Collaborative staff development programme & research

						5. Tasks assigned 6. Additional proposal for collaboration with UNISA-OU team received
Task 9 Feedback on outcome and follow-up of collaborative workshop	Present report	12/7/2017	Dean	Vice-Chancellor; HODs and academic staff on development cadres	Stationery, refreshment	1. Report submitted to the Vice-Chancellor 2. Minutes of stakeholders' meeting
Task 10 Follow-up on collaborative proposal with UNISA-OU team with skype conference call	Conference participant	17/7/2017	Dean	UNISA-OU team: Ashley Gunter, Adelino Chissae, Parvati Raghuram	Internet access Skype app Laptop computer	1. Skype discussion set-up 2. E-mail communication trail subsequently 3. Proposal for collaboration 4. Proposal for training workshop
Task 11 Present proposal of UNISA-OU on training workshop to Vice-Chancellor	Facilitate	28/7/2017	Dean	Vice-Chancellor	Secretarial facilities	1. Report submitted to VC 2. Approval received through Director of Academic Planning (DAP) who was mandated to facilitate workshop for participants across all Faculties in the university
Task 12 Explore more opportunities for partnership with other institutions in global north	Facilitate	As opportunities arise	Dean	Vice-Chancellor, Partner institutions	Secretarial facilities, internet access	1. Communication trail: e-mail and WhatsApp, with would be partners
Milestone B: Partnership secured in principle with STEM Faculty, OU and UNISA-OU team with MoU signed						

Key Task C: Plan and host Training Workshop on	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?

Evaluating Learning Design in Blended and Online Courses						
Task 1 Submission of proposal of training workshop “Evaluating Learning Design in Blended and Online Courses” from UNISA-OOUK partners to the Vice-Chancellor	Package collaborative proposal workshop request	28/7/2017	Dean	Vice-Chancellor	Secretarial facilities	1. Proposal presented 2. Approval
Task 2 Informal discussion of workshop proposal with Director of Academic planning (DAP)	Present collaborative plan	2/7/2017	Dean	DAP	Informal official visit	1. e-mail follow-up 2. Undocumented consent and advise for intended collaborators
Task 3 Approval for collaboration received from Management and required task assigned to Deputy Dean	Assign task to Deputy Dean	5/9/2017	Dean	Deputy Dean DAP	Stationery	1. Approval letter with minute assigning task to Deputy Dean 2. Presentation (to Dean) of workshop requirements by Deputy Dean
Task 4 Presentation of proposal to Faculty Management / Academic Board	Chair meeting / Facilitate	12/9/2017	Dean	Faculty Board	Refreshment Secretarial facilities	1. Minutes of meeting 2. Reviewed workshop requirements
Task 5 Submission of workshop requirements to DAP for onward presentation for Vice-Chancellor’s approval	Submit prepared requirements	13/9/2017	Dean	Principal Confidential Secretary Deputy Dean DAP	Secretarial facilities	1. Submitted workshop requirement
Task 6 UNISA-OU team interacts with FOS	Facilitate	23/10/2017	Dean	Faculty Management, UNISA-OU team	Secretarial facilities, refreshments, lunch and drinks	1. Notice of interactive session 2. Minutes of meeting 3. Photographs 4. Resolutions
Task 7 Training workshop on preparation of interactive course materials for effective science training in ODL	Facilitate and Co-organize	26/10/2017	DAP	Dean, UNISA / OOUK collaborators Deputy Dean	Tea break, lunch, multimedia facilities, projectors, Conference room, Electronic recording facilities	1. Video recording of workshop proceedings 2. Photographs taken during the workshop 3. Communiqué of workshop 4. Workshop report 5. Certificate of participation

Task 8 UNISA-OU team interacts with NOUN extended management	Co-Facilitator	27/10/2017	DAP	Extended NOUN-Management UNISA-OU team	VC's conference room	Programme of meeting Video Photographs
Milestone C: Academic staff of the Faculty of sciences, NOUN are trained on the preparation of interactive learning / teaching material for open and distance learning in a workshop facilitated by the UNISA-OU team organized by and administered at the National Open University of Nigeria						

Key task D: Ensuring hands-on science laboratory practical exposure for undergraduate students: Pilot Work	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Laboratory Committee Constituted and approved by Faculty Board	Facilitate	1/8/2016	Dean	Faculty Board	Refreshment, Secretarial facilities	1. Minutes of meeting 2. Committee composition 3. Terms of reference
Task 2 Laboratory Committee presents proposal to assign weight to science practical to the Faculty Board	Facilitate	9 & 10 / 2016	Chairperson, Laboratory Committee	1. Laboratory Committee members, 2. Faculty Board	Refreshment Secretarial facilities	1. Minutes of meeting 2. Proposal
Task 3 Faculty Board recommends assigning weight to practical session for student assessment to Senate through Director of Academic Planning (DAP)	Facilitate	11 /2016	Dean	1. DAP 2. Senate	Refreshment Secretarial facilities	1. Minutes of meeting 2. Proposal submitted
Task 4 Proposal for assigning weight to practical session for student assessment presented to Senate through DAP	Facilitate	11/2016	Chairman, Committee of Deans & Directors	1. Dean 2. Senate	Tea break, Lunch, Secretarial facilities	Extracts of decision of Senate conveying approval
Task 5 Laboratory Committee presents a proposal to ensure all science students access laboratory facilities for science practical to Faculty Board	Facilitate	1 / 2017	Chairperson, Laboratory Committee	1. Laboratory Committee members, 2. Faculty Board	Refreshment Secretarial facilities	1. Minutes of meeting 2. Extract of Board's recommendation to have MoU with sister universities
Task 6 Develop practical manuals for students' practical sessions, and test on pilot scale in Faculty's established set of laboratories in Lagos	Facilitate and review some of the laboratory manuals developed	1/8/2017	Laboratory Committee members	Reviewers Manual Writers HODs Laboratory Technologists	Stationery Approved fund	1. Memos, 2. Draft document 3. Reviewed draft documents with reviewers' comments

						4. Video of practical sessions 5. Report of semester practical sessions 6. Student scores
Task 7 Review and Submit final manual manuscript to university for mass production, and payment of course writers and reviewers	Facilitate	24/8/ 2017	Manual writers	Reviewers, HOD Pure and Applied Sciences, Coordinator of facilitation and Course material Development, Vice-Chancellor	Stationery	1. Payment of writers and reviewers 2. Printed practical manuals 3. Manuals accessible as workbook to students
Milestone D: User-friendly science practical manuals for hands-on science practical are produced						

Key task E: Ensuring hands-on science laboratory practical exposure for undergraduate students: Partnership with sister universities	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Laboratory Committee zones country into six by geopolitical divide to constitute six MoU negotiating teams, for ease of administration	Facilitate / Guide	22/3/2017	Chairperson, Laboratory Committee	1. Laboratory Committee members 2. MoU Committee	Secretarial facilities	1. Zoning plan with committee members listed and team leaders designated 2. Budget proposed
Task 2 Constitute MoU Negotiating Committee and sub-divided into six for the proposed six geopolitical zones academics, technologists and administrators as secretaries to zonal committees	Guide Committee	22/3/2017	Dean	Chair Laboratory Committee		1. Proposal for MoU with 36 sister universities spread across the six zones prepared with cost implication for travels for Vice-Chancellor's attention 2. Team Leaders assigned each of the six teams

Task 3 Proposal and budget approved by Vice-Chancellor	Present proposal to Vice-Chancellor and defend budget		Vice-Chancellor	Bursar	Disbursed funds	1. Vice-Chancellor's approval 2. Bank e-payment alert
Task 4 MoU draft collected from Legal unit of NOUN with advise	Facilitate	6-7/ 2017	Head, Legal unit,	Dean, Chair, Laboratory Committee	Stationery, secretarial personnel	1. Draft MoU customized for each of the proposed sister universities
Task 5 MoU committee meets for briefing and discusses action plan for the trips	Coordinate		Dean	HODs, Laboratory Committee members, Laboratory Technologists and Administrators (as Zonal Teams Secretaries) in the Faculty	Secretarial facilities Funds to move staff from Lagos to Abuja for meeting	1. Minutes of meeting 2. MoU Committee considers and ratifies movement plan
Task 6 Teams set out for the MoU visits to sister universities each led by a pre-determined zonal leader	Direct process and also lead a team	3/7/2017	Dean	MoU Negotiating Committee members	Secretarial facilities	1. Reports of different teams 2. Photographs of meetings 3. Feedback from sister universities visited with defined terms for partnership
Task 7 Review of terms of sister universities and legal advice given	Facilitate	14-29/9/2017	Head, Legal Unit, NOUN	MoU Negotiating Committee, Faculty Board Vice-Chancellor,	Secretarial facilities, refreshment	1. Harmonized draft MoUs ready
Task 8 Estimate charges accrued each student for practicals based on bills from sister universities presented to FOS Board for consideration	Facilitate		Dean	MoU Negotiating Committee, FOS Board,	Secretarial	1. Minutes of last meeting of MoU Negotiation team 2. Minutes of FOS Board meeting and recommendation for presentation of estimate to university management

Task 9 Proposal of estimated charges presented to the Vice-Chancellor for university management's approval	Present submission		Dean	Vice-Chancellor Management	Secretarial	Request for approval of Estimate forwarded to the Vice-Chancellor for Management approval
Task 10 Harmonized report on terms and conditions of partner institutions presented to the Vice-Chancellor	Discuss report		Dean	Vice-Chancellor Head, Legal unit	Secretarial facilities	Report on MoU negotiation visits
Task 11 MoU signed by both parties; NOUN and host institutions	Facilitate	31/10/2017	Vice-Chancellor	Registrar Vice-Chancellors and Registrars of sister universities	Secretarial Facilities Souvenir Funds for trips / Courier services	MoU signed by Vice-Chancellor and Registrar of NOUN and the 36 partner institutions Hence, signed agreements available with the selected universities
Milestone E: Science students of the National Open University of Nigeria undertake hands-on practical across Nigeria in laboratories of the 36 sister university with memoranda of understanding.						

Key task F: Ensuring hands-on science laboratory practical exposure for undergraduate students: Commencement of science practical sessions nationwide	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Set up of Laboratory facilities at Faculty of Sciences (FOS) at the Headquarters, Abuja	Facilitate	1/8/ 2017	Dean	Vice-Chancellor, HODs Laboratory Committee	Funds for laboratory equipment, facilities and consumables	Request forwarded to VC Submission of procurement unit Supply of items by contractor with weigh bill
Task 2 NOUN Science students' practical sessions in partner universities	Coordinate	Every semester	Dean	Laboratory Committee Monitoring team	Funds for trips	1. Records in Student practical workbook 2. Records of student scores 3. Claims from sister

						universities through respective Directors of NOUN Study Centres in the host university's towns / cities 4. Proof of payment by NOUN
Task 3 Practical sessions in already established FOS Laboratories in Lagos	Facilitate	6/11/2017	Dean	1. Chairperson , 2. Laboratory Committee, 3. FOS Lagos Liaison Officer	Budget for consumables, 4 weeks DTA and academic staff and their transportation to Lagos from Abuja and honorarium for additional technical support	1. Proposal with budget presented to the Vice-chancellor, 2. Approval and proof of release of funds 3. Video recordings of practical sessions 4. Still photos 5. End of practical session reports 6. Records in Student practical workbook 7. Records of student scores
Task 4 Plan to commence student practical in Abuja conceived and discussed with stakeholders	Facilitate	5/10/2017	Dean	Vice-Chancellor, HODs and Laboratory Committee Faculty Driver Director of NOUN Model Study Centre, Abuja	Secretarial support and facilities, Fuel for faculty vehicle	1. Proceedings of meeting with HODs and Laboratory Committee 2. Sub-committee constituted for exploratory assessment of NOUN model Study Centre, Abuja, proposed venue 3. Report and recommendation of sub-committee 4. Proposal and Budget presented to Vice-

						Chancellor for approval
Task 5 Sub-Committee undertake exploratory visit to the Model Study Centre, Abuja	Facilitate	11/10/2017	Chairperson , sub-committee	Committee members Faculty Driver	Official vehicle Fuel	Memo of notification to the Model Study Centre
Task 6 Sub-Committee submits report, well prepared proposal with budget	Facilitate	27/10/2017	Chairperson , sub-committee	Committee members	Stationery	Submitted Report
Task 7 Proposal presented to the Vice-Chancellor for funding	Discuss proposal	31/10/2017	Dean	Vice-Chancellor	Secretarial facilities	Submitted proposal
Task 8 Approval of budget received		3/11/2017	Vice-Chancellor	Bursar	Stationery	Approval notice
Task 9 Temporary sets of laboratories set-up at Model Study Centre, Abuja	Facilitate	15/11/2017	Chairperson Laboratory Committee	DPW&S Laboratory Committee	Funds Rooms at the Model Study Centre, Abuja	Photographs and videos
Task 10 Commence Laboratory practical in NOUN Model Study Centre Abuja	Facilitate	20/11/2017	Chairperson , Laboratory Committee	Laboratory Committee members; HODs, Director, NOUN model Study Centre, Abuja; students	1. Mobile laboratories set up at Model Study Centre, Abuja 3. Funds for relocating of Technologists from Lagos laboratories to Abuja	1. Video recordings of sessions, 2. photographs 3. Records in Student practical workbook 4. Records of student scores 4. Reports of end of semester practical sessions

Milestone F:

Two regional laboratories out of six proposed as mid-term intervention by the Faculty of Sciences now functional.

Key task G: Reduce work load of academic staff in order to allow more time for development focused-research	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Reduce courses assigned lecturers to maximum six to provide more time for meaningful research	Facilitate	1/9/2017	HODs	Academic staff	Stationery, support staff	1. Documents of assigned courses from each department 2. Better research focus and empirical research
Task 2 Follow-up on request for staff recruitment earlier submitted to university Management	Present reminder Vice-Chancellor's approval	1/9/2017	Dean	Vice-Chancellor	Informal discussion with Vice-Chancellor	Update on ongoing recruitment exercise
Task 3	Serve on interview panel	11/9/2017	Dean	Constituted interview panel HoDs	Secretarial facilities	1. Notice of interview and file

Interviews for shortlisted candidates for different departments in the faculty						2. Shortlisted Candidates' application letters and other documents
Task 4 Additional academic staff members report to Faculty	Documentation	10/2017	Recruited academic staff	Faculty Officer HODs Monioluwa	Secretarial facilities	1. Documentation of newly recruited academic staff in the faculty and departmental secretariats
Task 5 Assign courses to new academic staff members	Direct	10/2017	HoDs	New academic staff members	Stationery	List of assigned courses against each staff
Milestone G: Academic staff strength increase and they now have more time to be used for research work						

Key task H: Define research focus for the Faculty and stimulate interest in applied research	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Faculty Board sensitized on vision for applied research	Motivate	17/8/2017	Dean	Faculty Board	Refreshment Secretarial facilities	1. Minutes of meeting 2. Proposal
Task 2 Strategic plan committee constituted by Faculty Board	Facilitate	17/8/2017	Dean	Chairperson, Faculty Strategic plan Committee; Departmental Representatives serving of Strategic plan committee	Refreshment Secretarial facilities	1. Minutes of Board meeting 2. Strategic Plan Committee members formed (comprises representative of each Department)
Task 3 Informal discussion with Director, Directorate of Research Administration and Advancement (DRA&A)	Host	14/9/2017	Dean	Director, DR&A and Head, Linkages unit	Office reception	Informal interactive session
Task 4 Director, DRA&A officially presents activities of Directorate to Faculty Board	Facilitate	21/9/2017	Director, DRA&A	Faculty Board	Refreshment Secretarial support	Minutes of Board meeting
Task 5 Seminar on Tertiary Education Trust Fund (TETFund) for research	Resource person	13/10/2017	Dean	Deputy Dean, Heads of Departments	Refreshment, Secretarial support	1. Report of Seminar 2. Slide presentations
Task 6 Each Department defines research focus	Coordinate	17/10/2017	HODs	Departments	Refreshment, Secretarial support	Minutes of meeting of departmental strategic plan committee Strategic plan document of each department
Task 7 Research focus from departments harmonized into a faculty document and Strategic plan for Faculty of Sciences	Facilitate	20/11/2017	Chairperson, Faculty Strategic plan committee	Departments		1. Minutes of Board meeting 2. Faculty Research focus defined

2018-2023 presented to Faculty Board for review and adoption						3. Draft strategic plan, FOS 2018-2023 available
Task 8 Reviewed and corrected strategic plan document, FOS submitted to DAP	Facilitate	17/11/2017	Dean	DAP	Secretarial facilities	Strategic plan document, FOS 2018-2023 submitted to DAP
Task 9 Monitoring and Evaluation of research Strategy	Coordinate	1/12/2017 to 2022 (done annually)	Dean	Chairman, Monitoring and evaluation committee, HODs	Office, stationery, secretarial personnel	1. Set up Monitoring and evaluation committee 2. Evaluation instruments developed 3. Annual report
Milestone H: Strategic plan document with defined research focus for the Faculty, strategies for achieving set goals are mapped out and plans for execution and regular monitoring are put in place (Roadmap FOS 2018-2023).						

Key task I: Develop research facilities and skills of academic staff	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 University Management support for laboratory establishment	Facilitate with Management and supervise facility delivery	10/7/2017-date	Vice-Chancellor	Governing Council HoDs	Laboratory space, Funds provided by university Management for laboratory equipment and consumables	1. Physical structure with equipment and consumables 2. Functional laboratory 3. Continuous provision / servicing of equipment 4. Students carrying out research projects in the laboratories
Task 2 One day in-house workshop on preparing grant winning-research proposal	Facilitate and plan	7/12/2017	Dean	Invited facilitator, HODs, Faculty Research / Seminar committee	Administrative staff support, Secretarial support Refreshment, lunch, stationery Management approved funds	Presentation slides Report of seminar Photographs of sessions
Task 3 One day in-house workshop on academic matters and developing interactive learning materials for practical science	Direct	11/2017	Deputy Dean	HODs, Academic staff	Administrative staff support, Secretarial support Refreshment, lunch, stationery Management approved funds	1. Report of workshop 2. Workshop communiqué 3. Still photos 4. Video coverage of proceedings / opening ceremony

						5. Communiqué of workshop
Task 4 Subscription to academic funding bodies like African Network of Scientific and Technological Institutions (ANSTI)	Facilitate	30/7/2017	Vice-Chancellor	Dean	University funds	1. Faculty registered with ANSTI
Task 5 Encourage and motivate staff to secure exchange placement and capacity development	Facilitate Management's approval and registration with relevant collaborating bodies	9/2017 to 01/02/2018	Academic staff	Partner institutions	Secretarial support, refreshment, internet subscription	1. Minutes of meeting 2. Staff secure sponsorship for staff-exchange for research 3. Result of research delivered in scientific conferences 4. Staff participating in staff exchange programmes across IDC2017-2018 member institutions
Task 6 Academic staff in the faculty supervise student projects tailored towards faculty's research focus	Facilitate	1/8/2017	All academic staff	Final year students		1. Student project report 2.
Task 7 Academic staff members access grant opportunities	Facilitate	2/2018	Academic staff	Committee of Deans and Directors Dean	Secretarial facilities, stationery TETFund Other funding agencies	1. Individual research grant proposals submitted by academic staff members 2. Faculty (groups) research proposals submitted
Task 8 Encourage academic staff to attend scientific meetings and present research results	Motivate and Facilitate	2017 to 2018	Academic staff	Vice-Chancellor, Committee of Deans and Directors	Secretarial facilities	1. increased number of national and international conferences attended by staff 2. increased number of publications in more highly rated scientific outlets

Task 9 Establishing specialized research laboratories	Facilitate & coordinate activities	11/2017 - 2018	Dean	Vice-Chancellor Philanthropists Faculty Research / Seminar Committee	Funding from University Management, Philanthropists Research grants	1. Advocacy call on identified philanthropists 2. Donation of funds by philanthropists 3. Erection & equipping of physical structure
Task 10 Institute reward systems for academic excellence	Facilitate and present to university management	8/1/2018	Dean	University Management Faculty Management	University, funding with counterpart funding sourced from industry and philanthropists	Award plaques, certificates, photographs and video coverage of award ceremony
Milestone I: Ensure perennial research facilities and infrastructure of international standard are available in the Faculty of Sciences of the National Open University of Nigeria						

Key task J: Establishing culture of applied science research	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Institute faculty seminar series for the presentation of research results and constitute Research / Seminar Committee	Facilitate; Chairperson, Research & Seminar Committee	1/9/2016	Dean	Research and Seminar Committee	Secretarial facilities, refreshments	1. Minute of Board meeting where proposal and committee was approved
Task 2 Committee presents proposals for monthly seminar series to Faculty Board	Facilitate	29/8/2016	Dean	Research and Seminar Committee, Faculty Board		1. Minutes of meeting where proposal was presented 2. Presentation roaster
Task 3 Monthly seminar series commenced	Facilitate	6/9/2017	Seminar Coordinator	Authors / Presenters, Faculty Board	Stationery, refreshment	1. Minutes of seminars 2. Powerpoint slide presentations 3. Manuscripts of presentations
Task 4 Publish seminar series	Facilitate	1/12/2017	Editor / Deputy Dean	Authors / Presenters, Reviewers, University Management	Secretarial support	1. Published Proceedings of annual monthly seminar presentations of the Faculty
Task 5 Harmonized university Journal for science-based faculties proposed	Facilitate	23/8/2017	Chairman, University Harmonized Journals committee	Dean, Deans of Agricultural Sciences and Health Sciences Faculties	Stationery, refreshment	1. Minutes of meeting where proposal was presented 2. Editorial Board for constituted 3. Letter of appointment as

						Chairperson for team
Task 6 Sub-Committee meeting to Constitute editorial board of harmonized journal	Chair sub-committee	5/10/2017	Dean	Dean, Faculty of Agricultural Sciences; Dean, Faculty of Health Sciences, Administrative officer (secretary to sub-committee)	Secretarial support	1. Notice of meeting 2. Minutes of meeting 3. Journal name defined 3. Document submitted to Chairman, University Harmonized Journal committee
Task 7 Call for contribution sent out for the Journal of Physical and Life Sciences (JPLS) and faculty encouraged to submit manuscripts	Facilitate	3/11/2017	Editor-in-Chief (Dean)	Subject Editors	Secretarial support, internet access	1. Call for contribution circulated
Task 8 Manuscripts received, processed and compiled	Editor-in-Chief	15/1/2018	Dean	Reviewers, authors, Chairman, University Harmonized Journal Committee (UHJC)	Secretarial support	1. Reviewers' comments 2. Updated accepted manuscripts 3. Editor-in-Chief compiles manuscripts and does necessary layout 4. Camera ready draft submitted to Chairman, UHJC
Task 9 Draft of JPLS submitted to TETFund for funding	Facilitate	12/2/2018	Chairman, UHJC	Chairman Committee of Deans and Directors, TETFund	Secretarial support	1. Minutes of meeting where draft was submitted 2. TETFund approval and fund released
Task 10 Maiden edition of JPLS printed and launched	Facilitate	1/3/2018	Vice-Chancellor	Deans of faculties of Agricultural Sciences, Health Sciences and Sciences	Tertiary Education Trust funds (TETFund)	1. Copies of Journal of Physical and Life Sciences
Task 11 Exhibition of research results and innovations	Facilitate, supervise logistics	5 to 9/3/2017	Science based faculties	EXPO 2018 Committee Vice-Chancellor	Funds from university	1. Certificate of participation in national exhibitions like EXPO 2018 of the Federal Ministry of science and Technology 2. Exhibition of products during

						Faculty's Science & Technology week documented in video and photographs 3. Patent of science products and inventions
Milestone J: Series of Faculty publications including Proceedings of annual faculty seminar, annual public lecture, proceedings of annual faculty week and Faculty journal are produced						

Key task K: Mid-term review of PAP and processes	My role?	When?	Who?	Who else?	Resources, materials, support	How to measure?
Task 1 Assess level of progress made with my PAP	Review tasks accomplished so far	16/10/2017	Dean		My PAP, report of activities	Milestones achieved
Task 2 Identify likely challenges to executing / finishing plan	Critical environmental scan	18/10/2017	Dean		My PAP	Feedbacks from stakeholders
Task 3 Define line of action to solicit for support of PAP to ensure its success						Plan to interact with Vice-Chancellor
Task 4 Book appointment with the Vice-Chancellor to present an update on my PAP and solicit support on progress	Secure appointment	21/10/2017	Dean	Vice-Chancellor		Verbal appointment for Tuesday 24 th October, 2017 by 11:00a.m. received
Task 5 Request for media coverage from Media and Publicity unit of the university	Direct Faculty Officer to handle	21/10/2017	Faculty Officer (FO)	Director, Media and Publicity	Secretarial facilities	Request memo
Task 5 Interactive session with the Vice-Chancellor to present update on progress with my PAP; seek his opinion to help guide further actions	Anchor	24/10/2017	Dean	Vice-Chancellor, Faculty Officer FOS, Media and Publicity crew	Stationery, recording equipment, still photo camera, video camera	1. Report of interactive session 2. Photographs 3. Video record of session 4. Affirmation of support 5. Vice-Chancellor's promise to serve as one of the resource persons at FOS' in-house research workshop 6. Lessons learnt during the interactive session 7. Recommendation to learn more on legal issues with

						MoU with the Head, Legal Unit
Task 6 Send appreciation letter to Director, Media and Publicity and request for media coverage of a session with the Head, Legal unit	Direct Faculty Officer to execute the task	25/10/2017	FO	Director, Media and Publicity	Stationery	1. Appreciation letter 2. Request memo
Task 7 Interactive session with Head, Legal unit on legal issues with MoU and different aspects of my PAP	Anchor and Facilitate	27/10/2017	Dean	Head, Legal unit and his team, Chairperson, Laboratory Practical Committee	MoU drafts, feedback from sister universities, Media crew, recording equipment and cameras	Photographs of session
Milestone K: Support of management re-affirmed, a better understanding of Management's position and action plans following from my PAP hence the assurance of its success.						

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