Administrative Factors Influencing Timely Completion of Graduate Scholarship (Masters and Doctorate Students): The Case of Graduates Supported by RUFORUM Grants in Africa

Moses Waswa

RUFORUM Makerere University Email. m.waswa@ruforum.org

Drake Patrick Mirembe, PhD
Senior Lecturer. Makerere University College of Computing and Information Sciences.
Email: dmirembe@gmail.com, dmirembe@utamu.ac.ug

Peter Kalinda, PhD.
Mbarara University of Science and Technology Email. kalindapeter@yahoo.com

ABSTRACT

The study examines administrative factors influencing timely completion of postgraduate students supported by RUFORUM grants in Africa. The University administration factors examined included: presence of an accessible supervisor; incentivizing supervisors; relationship of supervisor to the student; communication between supervisor and the student; experience and expertise of the supervisor in the field of study of the student; number of students assigned to a supervisor; duration of review of proposals by supervisors/examiners; delay in returning comments by external examiners; and, inadequate guidance from the supervisor to the student on research matters. A cross-sectional survey research design was adopted and data was collected using a close-ended questionnaire and semi-structured interview guide. Data collected from 241 respondents was subjected to correlation and regression analysis using the Statistical Package for the Social Sciences (SPSS) to establish significant variables. Results indicated the major university administrative factors influencing completion time was the small number of supervisors for both Master's and doctorate students. This warrants the need to give attention to increasing the number of supervisors supervising the graduate students.

Key words: competitive grant system, delay, doctorate, master, supervision

INTRODUCTION

The Regional Universities FORUM for capacity building in agriculture (RUFORUM), founded in 2004 has been supporting the training of Doctorate and Masters' degree students through the competitive grants system, aimed at increasing the contribution of graduates and research products from RUFORUM member universities to smallholder livelihoods and rural development (Rukarwa et al., 2018). Over the years, RUFORUM has supported over 1958 master students and 536 PhD students (RUFORUM, 2020). However, RUFORUM continues to observe low timely completion rates of students as reported by Njeru (2014a, 2014b) and RUFORUM (2020) resulting into additional costs committed by RUFORUM to sustain the students in the universities.

The slow completion rate of graduate students has attracted attention from RUFORUM and other stakeholders, including; university administrations, policy makers and candidate sponsors (RUFORUM, 2018). Accordingly, a number of recommendations have been made to address these challenges (Njeru, 2014a; Njeru, 2014b; RUFORUM, 2020). Since then, no attempts have been made to identify the factors responsible for the low completion rates in order to reverse the trend, hence the rationale for this study. Njeru (2014a, 2014b) classifies these factors into three categories student-related factors, University administrative factors and economic factors.

LITERATURE REVIEW

Soumana and Uddin (2017) identified the effect of supervisors and most notably inaccessibility; lack of engagement; weakness in the subject matter being researched and also attitude and relationship between supervisor and student as the most important factors determining completion time. Relatedly, Nurhazani et al. (2015) reported experience and expertise of the supervisors as well as an accessible supervisor as one of the key determinants of completion time of postgraduate studies. On the other hand, Aina (2015) identified gender, experience of supervisors and the number of students supervised by a single supervisor as having significant relationships with the completion time of doctoral programmes. This is similar to the findings of Rong'uno et al. (2017) who reported a mismatch between the numbers

of students supervised and the numbers of supervisors as a major factor contributing to delayed completions. Associated with the attributes of a supervisor, Eyangu et al. (2014) identified the slow process of reviewing proposals by supervisors/reviewers; assigning two supervisors per student; and, undependable supervisors as affecting timely completions. Unlike the studies above, the influence of university administrative factors especially the student supervision processes on completion time of masters and doctorate studies is currently not documented for RUFORUM member universities.

HYPOTHESIS

The study hypothesis arising from the literature reviewed is that university-administrative factors significantly influence completion time of masters and doctorate students supported by RUFORUM grants in Africa.

METHODS

A cross sectional survey design was adopted for this study because it provides a systematic description that is as factual and as accurate as possible (Setia, 2016). The study sampled students that received grants from the RUFORUM Secretariat from 2009 to 2015 as these students are expected to have graduated by the end of 2017. A sample size of 332 respondents was randomly selected. A (2 or 3, or 4) section self-report questionnaire was developed to collect data on the respondents (perceptions of administrative factors affecting completion). Data was collected using the questionnaire survey method. Qualitative data was analyzed following the content analysis procedure while quantitative data was analyzed using correlation and regressions analysis.

RESULTS
NUMBER OF SUPERVISORS ASSIGNED TO STUDENTS

Table 1 shows the number of supervisors that are allocated to any particular student and the corresponding frequency. Results indicate that the majority of the students had two supervisors (64.3 %) while the least had up to five supervisors (1.3 %). To establish the direction of the relationship between the number of supervisors and completion time, correlation analysis was undertaken (Table 2).

Table 1: Number of supervisors allocated to Masters and Doctorate students supported by RUFORUM grants

Number	Frequency	Percent
1	11	4.6
2	153	64.3
3	53	22.3
4(Doctoral Committee)	18	7.6
5(Doctoral Committee)	3	1.3
Total	238	100.0

Table 2: Correlation between number of supervisors and completion time for postgraduate students

Variables	1	2
No. of years of study	1.000	.142**
No. of supervisors	.142**	1.000

The correlation analysis in Table 2 indicates that the correlation coefficient between number of supervisors and completion time was r=0.142 with a significance value of P=0.005 at P<0.01 level of significance. Since the P value is less than the stated level of significance (P<0.01), the results imply that the number of supervisors is positively and significantly related to the completion time of postgraduate students. This therefore implies that the higher the number of supervisors allocated to a given student, the shorter the completion time and vice-versa. However, some times the supervisors may fail to agree on methodological issues and this may prolong the supervision process. To further establish whether the number of supervisors has influence on completion time, a regression analysis was undertaken (Table 3).

Table 3: Regression analysis of number of supervisors and completion time for postgraduate students

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.469	.339		7.291	.000
No. of supervisors	.288	.137	.136	2.112	.036

The regression analysis Table 3 indicates that the P value (P=0.036) for the number of supervisors is less than the level of significance of P<0.05. This implies that the null hypothesis that the number of supervisors and completion time are independent is rejected, and instead the alternative hypothesis that this variable and completion time are dependent is accepted. Hence, the number of supervisors has a statistically significant influence on completion time for postgraduate students. The beta coefficient of 0.136 implies that for every unit increase in the number of supervisors, completion time of the students increases by 0.136 years. This means that students with more than one supervisor are likely to complete studies after a long period of time.

University-administrative factors influence on completion times of all postgraduate students supported under the various grants of RUFORUM

Table 4 indicates that on average, 56.5% of the respondents with a mean value of 4.41 strongly agreed that the experience and expertise of the supervisor in the field of study influences time-to-completion while only 35.1 % agreed. The other variable that had a higher mean of 4.39 involved 53.6 % of the respondents strongly assenting that "the slow process of reviewing proposals by supervisors/reviewers delays student completion" while only 39.3 % agreed. These results imply that if completion rates are to be improved in RUFORUM member universities, vigilance is needed in the selection of highly experienced supervisors who have expertise in the students' research field. The results further imply that supervisors need to be motivated in the supervision process to hasten the review process of student's proposals and thesis/dissertations.

Table 4: University administrative related factors influence on completion times of all postgraduate students supported under the various grants of RUFORUM

University variables	Mean	Standard deviation	Strongly disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
			N (%)	N (%)	N (%)	N (%)	N (%)
An accessible supervisor	4.37	1.022	14 (5.8)	1 (0.4)	10 (4.2)	73 (30.4)	142 (59.2)
Incentivizing supervisors	4.09	1.098	13 (5.4)	13 (5.4)	17 (7.1)	93 (38.9)	103 (43.1)
Attitude and relationship of the supervisor to the student	4.35	1.032	12 (5)	5 (2.1)	13 (5.4)	68 (28.3)	142 (59.2)
Limited contact between supervisor and student	4.32	1.015	6 (2.5)	18 (7.6)	6 (2.5)	71(29.8)	137 (57.6)
Experience and expertise of supervisor	4.41	0.845	4 (1.7)	8 (3.3)	8 (3.3)	84 (35.1)	135 (56.5)
The number of students supervised	4.06	1.084	8(3.4)	21 (8.9)	21 (8.9)	86 (36.4)	100 (42.4)
Slow proposal review process	4.39	0.848	6 (2.5)	5 (2.1)	6 (2.5)	94 (39.3)	128 (53.6)
Delay in returning comments of thesis	4.37	1.015	7 (3)	15 (6.3)	7 (3)	63 (26.6)	145 (61.2)
Inadequate guidance from the supervisor	3.98	0.967	6 (2.5)	15 (6.3)	32 (13.5)	109 (46)	75 (31.6)

Source: Primary Data (2018)

To measure the strength of the association between completion time and the University-administrative variables, correlation analysis in Table 5 below was undertaken.

Table 5: Correlation between University administrative factors on completion time for postgraduate students supported under the different granting portfolios of RUFORUM in Africa

Variables	1	2	3	4	5	6	7	8	9	10	11	12
Completion time	1.000											
An accessible supervisor	-.013	-.099*	-.016	1.000								
Incentivizing supervisors	.087	.010	.006	.226**	1.000							
Attitude and relationship of the supervisor to the student	.067	.031	-.061	.245**	.213**	1.000						
Limited contact between supervisor and student	-.007	-.089	.062	.088	.015	.095	1.000					
Experience and expertise of supervisor	.075	.023	-.070	.089	.086	.198**	.076	1.000				
The number of students supervised	.039	.004	-.022	.067	.181**	-.063	.029	.048	1.000			
Slow proposal review process	.106*	.027	-.042	-.043	.027	.051	.143*	.045	.242**	1.000		
Delay in returning comments of thesis	.095	-.056	-.049	-.003	.033	.053	.135*	.138*	.181**	.399**	1.000	
Inadequate guidance from the supervisor	-.038	.012	-.052	-.064	.129*	.131*	-.025	.098	.172**	.325**	.066	1.000

Amongst independent variables, Table 5 indicates that the slow process of reviewing proposals by supervisors/reviewers had a correlation coefficient of 0.106 with a significance value of 0.03 at $P<0.05$ significance level. Since the significance value of 0.03 was less than the stated level of significance ($P<0.05$), this implies a statistically significant weak positive correlation between this variable and completion time for postgraduate students (both Masters and Doctorate combined). This means that the time taken by supervisors to return comments to the students' reports has a bearing on the completion time for the students. However, the regression analysis did not

establish any cross-cutting predictor. Therefore, both Masters and Doctorate students were analyzed independently as indicated below.

Table 6: University administrative factors influence completion rates and times of Doctorate students supported under the various grants of RUFORUM

Variables	Mean	Strongly disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
		N (%)	N (%)	N (%)	N (%)	N (%)
An accessible supervisor	4.21	5 (10.4)	1 (2.1)	1 (2.1)	1 3 (27.1)	28 (58.3)
Incentivizing supervisors	4.35	3 (6.3)	0 (0)	1 (4.2)	1 7 (35.4)	27 (56.3)
Attitude and relationship of the supervisor to the student	4.25	3 (6.3)	2 (4.2)	0 (0)	1 8 (37.5)	22 (52.1)
Limited contact between supervisor and student	4.26	1 (2.1)	4 (8.5)	4 (8.5)	1 1 (23.4)	27 (57.4)
Experience and expertise of supervisor	4.48	1 (2.1)	1 (2.1)	0 0 ()	1 8 (37.5)	28 (58.3)
The number of students supervised	4.15	3 (6.3)	2 (4.2)	4 (8.3)	1 5 (31.3)	24 (50)
Slow proposal review process	4.33	2 (4.2)	0 (0)	1 (2.1)	2 2 (45.8)	23 (47.9)
Delay in returning comments of thesis	4.56	1 (2.1)	1 (2.1)	2 (4.2)	1 0 (20.8)	34 (70.8)
Inadequate guidance from the supervisor	3.98	2 (4.3)	3 (6.4)	7 (14.9)	1 7 (36.2)	18 (38.3)

Source: Primary data (2018)

Table 6 shows the responses from doctorate students against the University administrative variables influencing completion time. The table indicates that on average, 70.8% of the respondents with a mean value of 4.56 strongly agreed that "delay in returning comments of the research reports by the external examiners delays student completion" while only 20.8 % agreed. Further, 58.3 % of the respondents with a mean value of 4.48 strongly agreed that "experience and expertise of the supervisor in the field of study influences

timely completion" while only 37.5 % agreed. Given the responses above, a correlation analysis was undertaken to establish whether there is an association between University-administrative factors and completion time for doctorate students supported under the various grants of RUFORUM (Table 7).

Table 7: Correlation analysis of University administrative factors and completion time for Doctorate students supported under the various grants of RUFORUM

Variable	1	2	3	4	5	6	7	8	9	10
Completion time	1.000									
An accessible supervisor	-.019	1.000								
Incentivizing supervisors	-.044	.271*	1.000							
Attitude and relationship of the supervisor to the student	-.172	.267*	.370**	1.000						
Limited contact between supervisor and student	-.010	.307**	.275*	.293*	1.000					
Experience and expertise of supervisor	-.137	.220	.188	.532**	.228*	1.000				
The number of students supervised	-.001	.117	.184	.038	.343**	.258*	1.000			
Slow proposal review process	.260*	-.153	.192	.301*	.188	.360**	.216	1.000		
Delay in returning thesis comments	-.175	-.087	.231*	.184	.269*	.298*	.055	.287*	1.000	
Inadequate guidance from the supervisor	-.102	-.039	.311**	.413**	.145	.320**	.128	.455**	.122	1.000

Primary Data (2018)

Table 7 indicates that the slow process of reviewing proposals by supervisors/reviewers affects time-to-completion had the highest correlation coefficient of 0.260 and a significance value of 0.023 at the significance level of P<0.05. Since the significance value of 0.023 was less than the stated significance

level of P<0.05, this result implies a significant positive relationship with completion time. This implies that students acknowledged the bureaucratic university administrative procedures as key in impeding them from progressing normally at the universities. The regression analysis however, did not establish any variable significantly influencing completion time.

University administrative factors influencing completion time of master's students supported by RUFORUM grants

Table 8: University administrative factors influence on completion times of Masters Students supported under the various grants of RUFORUM

Variable	Mean	Strongly disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
		N (%)	N (%)	N (%)	N (%)	N (%)
An accessible supervisor	4.41	9 (4.7)	0 (0)	9 (4.7)	60 (31.3)	114 (59.4)
Incentivizing supervisors	4.02	10 (5.2)	13 (6.8)	16 (8.4)	76 (39.8)	76 (39.8)
Attitude and relationship of the supervisor to the student	4.37	9 (4.7)	3 (1.6)	13 (6.8)	50 (26)	117 (60.9)
Limited contact between supervisor and student	4.34	5 (2.6)	14 (7.3)	2 (1.0)	60 (31.4)	110 (57.6)
Experience and expertise of supervisor	4.40	3 (1.6)	7 (3.7)	8 (4.2)	66 (34.6)	107 (56)
The number of students supervised	4.03	5 (2.7)	19 (10.1)	17 (9.0)	71 (37.8)	76 (40.4)
Slow proposal review process	4.41	4 (2.1)	5 (2.6)	5 (2.6)	72 (37.7)	105 (55)
Delay in returning comments of thesis	4.32	6 (3.2)	14 (7.4)	5 (2.6)	53 (28)	111 (58.7)
Inadequate guidance from the supervisor	3.98	4 (2.1)	12 (6.3)	25 (13.2)	92 (48.4)	57 (30)

Source: Primary Data (2018)

Table 8 below indicates that on average, 59.4 % of the respondents with a mean value of 4.41 strongly agreed that "the presence of an accessible supervisor hastens completion rates" while only 31.3 % agreed. With a similar mean of 4.41, 55 % of the respondents strongly agreed that "the slow process of reviewing proposals by supervisors/reviewers delays student completion"

while only 37.7 % agreed. To establish specific variables significantly related to completion time, a correlation analysis was undertaken (Table 9).

Table 9: Correlation between University administrative factors and completion time for Masters Students

Variables	1	2	3	4	5	6	7	8	9	10
Completion time	1.000									
An accessible supervisor	-.022	1.000								
Incentivizing supervisors	-.015	.175**	1.000							
Attitude and relationship of the supervisor to the student	-.013	.249**	.181**	1.000						
Limited contact between supervisor and student	.060	.007	-.058	.070	1.000	.007				
Experience and expertise of supervisor	.079	.071	.046	.186**	.007	1.000				
The number of students supervised	-.125*	.052	.138*	-.085	-.052	.023	1.000			
Slow proposal review process	-.020	-.023	.002	.018	.101	-.013	.229**	1.000		
Delay in returning comments of thesis	.055	.032	.042	.082	.115	.107	.199**	.426**	1.000	
Inadequate guidance from the supervisor	.065	-.070	.122*	.125*	-.037	.093	.180**	.292**	.077	1.000

Primary Data (2018)

The analysis in Table 9 indicates that amongst all variables, the number of students assigned to a single supervisor has the highest correlation coefficient of (r=-0.125) with a significance value of 0.039 at P<0.05 significance level. Since this P value (P=0.039) is less than the stated level of significance stated (P<0.05), this implies a statistically significant negative relationship with completion time for Masters Students.

Table 10: Regression analysis of University administrative factors against completion time for Masters students only

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.106	.978		2.154	.033
An accessible supervisor	.001	.124	.001	.009	.993
Incentivizing supervisors	.115	.104	.087	1.105	.271
Attitude and relationship of the supervisor to the student	-.018	.125	-.012	-.144	.886
Limited contact between supervisor and student	.034	.112	.024	.308	.759
Experience and expertise of supervisor	-.050	.134	-.029	-.369	.712
The number of students supervised	-.312	.115	-.226	-2.704	.008
Slow proposal review process	.151	.149	.088	1.016	.311
Delay in returning comments of thesis	.145	.115	.106	1.262	.209
Inadequate guidance from the supervisor	.097	.127	.063	.762	.447

To further examine the influence of university administrative factors on completion time, a regression analysis was undertaken (Table 10). The regression analysis established that the p-value for the number of students assigned to a single supervisor has an influence on time-to-completion (P=0.008) is lower than the significance level (threshold) specified (0.05). Thus, the null hypothesis that this variable and completion time are independent is rejected, and instead the alternative hypothesis that this variable and completion time are dependent is accepted. Hence, this variable has the strongest influence on completion time for Masters Students.

DISCUSSION OF FINDINGS

Results indicated that the number of supervisors is positively related with the time taken to complete postgraduate studies. This means that the higher the number of supervisors assigned to students, the higher the chances for the students to complete on time. This is in disagreement with what Eyangu et al. (2014) reports that assigning two supervisors per student and not agreeing easily on the students work affects students' completion on time. This implies that African universities need to ensure that the appropriate number of supervisors is allocated to students to amongst several aspects avoid conflicting guidance from multiple supervisors.

The findings further revealed that the number of students assigned to a single supervisor had the greatest influence on completion time for specifically the Masters students. This means that the more the number of master's students assigned to a given supervisor, the greater the chances for the students to complete in time. This could be attributed to cross-learning amongst students during the collective supervision processes. This further implies that depending on the staffing position of a given university, the number of students allocated to a given supervisor need to be guided by the supervisor's commitment and ability to supervise the allocated students. Ojungu(2017) similarly notes that when many students are allocated to a single supervisor chances are high that the supervisor may not get time to look at their work on time which will slow the supervision process leading to delayed completion. He further notes that in most cases the work supervised may be substandard or poor quality because the supervisor did not give adequate time to examine the work brought before him/her.

CONCLUSIONS AND RECOMMENDATIONS.

The study established that the number of supervisors per student as well as the number of students allocated to a given supervisor had influence on completion time. In terms of administrative factors; the results show that accessibility of supervisors, timely decisions on proposal, supervisor experience and expertise all influence the rate of the student progress and

overall completion on time.   This study recommends that there is need to balance student supervision proportions in universities if timely completion of studies is to be realized and ensure a continuous flush-out system of graduates into the job-market. The students should be allocated at least two supervisors who must submit monthly progress reports to the head of department in order to limit student-supervision related challenges. The supervisors should meet from time to time to draw supervision timetables, share challenges they face and also devise means of how to keep in contact with the students they supervise. Students who fail to submit draft concept notes and proposals four months after commencement of the research process should be summoned by the head of department and write commitment reports.

ACKNOWLEDGEMENTS

REFERENCES

Aina, L. O. (2015). "Factors affecting timely completion of doctoral degree in library and information science in Nigerian universities". *African Journal of Library, Archives and Information Science*, 25(2), 111–123.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches.* (2nd Ed.). London Sage Publications.

Eyangu, S., Bagire, V. & Kibrai, M. (2014). "An Examination of the Completion Rate of Masters Programs at Makerere University Business School". *Creative Education,* 5,1913-20.

Krejcie, R. V. & Morgan, D. W. (1970). "Determining Sample Size for Research Activities". *Educational and Psychological Measurement*, 607-610.

Mirembe, D.P, Lubega, T.J and Kibukamusoke, M. (2019). "Leveraging Social Media in Higher Education: A Case of Universities in Uganda". *European Journal of Open, Distance and E-learning* 22(2) 23-45

Mirembe, D. P. (2015). *The Threat Nets Approach to Information Systems Security Risk Analysis*, PhD thesis, University of Groningen.

Njeru, L. (2014). *RUFORUM Regional PhD case studies*. Retrieved January 10, 2018 from http://repository.ruforum.org/documents/case-studies-ruforum-regional-phd-programmes

Njeru, L. (2014). *Case studies on RUFORUM Regional Masters degree programs*. Retrieved January 10, 2018 from http://repository.ruforum.org/documents/case-studies-ruforum-regional-masters-degree-programmes

Nurhazani, M. S., Kamal, I. R. and Ahmad, Rozila, K. (2015). "Factors Contributing To the Timely Completion of PhD at the Malaysian Public Higher Educational Institutions". *International Journal of Humanities Social Sciences and Education (IJHSSE), 2(1)*,256-263

Rong'uno, S.K. (2017). "Institutional and Student Related Factors and Doctoral Studies Completion Rates in Education at Selected Public Universities in Kenya". *The International Journal of Humanities & Social Studies 5 (2),* 288-346

RUFORUM. (2018, October 26). *The Sixth African Higher Education Week and RUFORUM Biennial Conference 2018 (Communiqué).* Retrieved on 2/4/2018 from https://repository.ruforum.org/system/tdf/Communique%20Sixth%20RUFORUM%20Biennial%20Conference.pdf?file=1&type=node&id=37830&force=

RUFORUM. (2020). *Tracer Study of RUFORUM Graduates*. Retrieved on 2/4/2018 from https://www.ruforum.org/sites/default/files/Tracer%20Study%20report.pdf

Rukarwa, R.J., Egeru, A., Waswa, M. & Adipala, E. (2018). "RUFORUM granting mechanisms and implementation pathways". *RUFORUM Working Document Series (ISSN 1607-9345), 17 (1):* 97-106

Setia, M. S. (2016). "Methodology Series Module 3: Cross-sectional Studies". *Indian Journal of Dermatology, 61*(3), 261–264.

Soumana, A. O., & Uddin, M. R. (2017). "Factors Influencing the Degree Progress of International PhD Students from Africa: An Exploratory Study". Üniversitepark *Bülten, 6(1),* 79-94.

Author's Contact

Moses Waswa

Technical Specialist-Planning Monitoring Evaluation and Learning

Regional Universities Forum for Capacity Building in

Agriculture (RUFORUM) Makerere University

P.O. Box 16811, Wandegeya, Kampala, Uganda

Email. m.waswa@ruforum.org Tel. 0752723944