Unit Cost of Wastages Among First Time Undergraduates in South-South Nigerian Public Universities

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Abstract

The study investigated the unit cost of wastages among first time undergraduates in South-South Nigerian public universities. Three research questions were raised and answered. The study adopted the descriptive research design, using the ex-post facto research design. The population of the study comprised of ten conventional universities in south-south Nigeria. One hundred and twelve (112) programmes in the universities and all first time undergraduate in the programmes. Stratified random sampling techniques was used in the selection of the sample for the study and six (6) programmes which represent 5% of one hundred and twelve programmes selected. An instrument tagged "Student Enrolment and Flow Information Checklist (SEAFICT) was used to collect data for the study. The checklist did not require reliability test therefore reliability test was not done for this study. Data collected were analysed descriptively using percentage, mean, rate, ratio and charts. The research questions were answered, therefore, no hypothesis were tested. The results among others revealed that the wastage rate among first time undergraduates in public universities in South-South Nigeria public universities were 11.51%, the probation rate was 8.0%, while withdrawal rate stood at 3.5%. based on the results, it was concluded that it is important for the university system to be more effective and efficient in the utilization of resources for maximum goal attainment in human capital production. It was recommended among others that there is need to improve on their production functions to reduce the wastage rates and cost among first-time undergraduate in the universities.

Introduction

Student wastages appear to be a common phenomenon in public universities in Nigeria. This involves undergraduate probation at a level or withdrawal from the university. Probation is when a student remains in the same level for more than one academic session doing what he/she has done in the previous session. A student that fails to meet the promotion criteria to the next higher level probates the same level. Student withdrawal is when a student ends half way in the university. This happens when a student withdraws from the university system for not being able to achieve the required credit load to remain in

the system. In the university system, both student probation and withdrawal constitutes student wastages (Ade-Ajayi. & Olaniyi, 2019; Adu & Adigun, 2021).

Student wastage arises as a result of student failure in university examination. Some of these students are not able to accumulate the required credits to move to the next higher level. Student with less than 20 credits but have 10 credits probate the level and those with less than 10 credits leads to withdrawal from the university. Those that probates repeat resources for another session and those that withdraw has cost implication on the institution and the individual students and their families. The cost implication of student wastages include cost expended by the universities on personnel salaries and allowance, stationaries, physical plants, repairs and maintenance of equipment, vehicles and books among others (Ekanem, 2016; Adu, 2019).

Authors like Fauzia & Kuchah, (2016) observed that private cost is also incurred by the students and their families, such as admission expenses, school charges, examination charges, departmental dues, faculty dues, assignments, study tours/excursion, cost of textbooks, purchase of stationaries (pen, ruler, sharpener, eraser) practical demonstration materials, tools/instrument, replacement for damaged equipment, course registration, school handbook and non-academic (incidental) cost such as clothes, cost of feeding, clubs and societies, cost of accommodation, cost of transportation, identity card and passport photographs, caution fees/deposit, laundry and toiletries, student union dues, medicals, sports and recreation (Respondek, Seufert, Stupnisky & Nett, 2017;   Sosu & Pheunpha, 2019).

Paterson, (2017) averred that among reasons advanced for the wastage situation is ownership of the university. In federal universities, for instance, the University of Ibadan in the 2016/2017 academic session withdraws 97 students from various academic programmes

(publication and documentation unit, the University of Ibadan 2018). The withdrawal cut across seven faculties and at various levels of the institution. The reason for the withdrawal was students' inability to obtain the minimum academic requirements. They fall below the required cumulative grade point to proceed to the next level of their academic pursuits. Also, the Federal University of Technology, Minna in 2016/2017 academic session withdrew 44 students from various faculties owing to poor academic performance and examination malpractices (Public Relations Office, the Federal University of Technology, Minna 2017) (Adu & Adigun, 2021).

In the University of Benin, an average of 361 students are withdrawn every academic session from various levels and faculties in the institution owing to the inability of the students to obtain the minimum academic credits, examination malpractices and other related misconduct (Academic Planning Division, UNIBEN, 2016; Adu & Adigun, 2021). These figures exclude those on probation. State universities are also not exempted from the problem of student wastage. It is a common phenomenon that is observed in the institutions. Incidence of students' withdrawal, probation, examination malpractice, expulsion, absenteeism from class, poor performance and high failure rate appears to be in state universities also. The general belief is that the input in terms of resources in the university is determined by ownership of the university. It is argued that the federal government is richer than the state governments. Many of the state universities charge higher tuition fees than the usual charges obtainable in federal universities to be able to meet the required resources (Contini, Cugnata & Scagni, 2018).

The academic programmes of universities are among factors advanced for the increased rate of student wastages in Nigeria universities. Academic programmes are regulated by different policies programmes in the medical sciences relating to human

treatment are taken seriously with stringent policies to ensure high competency. The cost of running a programme could also cause variation in the rate of student wastage. The institutional cost to run programmes in medical sciences are more than that of the physical sciences and programmes in the art and social sciences due to its duration (Bernardo, Esteban, Fernández, Cervero, Tuero & Solano, 2016; Contini, Cugnata & Scagni, 2018). According to Ahmed (2015), there are wide differences in the average recurrent unit cost between academic disciplines and among universities type, ranging from ₦173,868 (US $1,086) for education to ₦1,577,705 (US $9,860) for medicine per student. Observation shows that some students do not like their programmes of study. These students entered the university with the aim of changing to their desired programmes later on. The inability to change to their programme of choice may result in the lack of interest in their current programme. This is evident in their poor attitudes to studies, leading to failure in examination (Faas, Benson, Kaestle & Savla, 2018).

Hällsten, (2017) and Iam-On and Boongoen, (2017) respectively observed that the generation of university is another factor advanced for wastage rate in Nigerian universities. This refers to the generation or period within which a particular university was established. It is believed that new universities should have a state of the art infrastructures and facilities, new structures, equipment, well equipped libraries, laboratories and studios among others. These improved facilities should aid teaching and learning, and therefore, increase student academic performance and also help in the reduction of wastage rates. Another school of thought believes that older universities are better established with laid down tradition that make operations easy. More so that older universities have more experienced lecturers and professors that should promote better learning and improve students' performance (Hällsten, 2017; Iam-On & Boongoen, 2017).

Gender is another important factor that could cause variation in student wastage rate. This stems from the fact that male and female students adapt differently to a new environment. The university environment is still new to these students who are coming in for the first time. The male students seem to adapt easily to a new environment than female student. Also, the present economic situation in the country is having a negative effect on the students, as their parents are not able to meet all their financial needs, hence these students have to work to meet their financial needs. These available jobs are part time menial jobs that are more accessible to male students. The female students are hardly able to access these jobs, which make them have financial difficulties, this could affect their performance academically leading to wastages (Mabel & Britton, 2018).

Sarra, Fontanella & Di-Zio, (2018) School experiences serves as powerful precursors to the decision to formally leave school. For example, the most common school-based factors contributing to school dropout include; poor school performance, disruptive behaviours, poor class/lecture attendance, negative attitudes toward school, and early school failure-particularly, repeating grades and corporal punishment (Muhammad & Muhammad, 2011). According to Ofem et al (2021), financial management involves both finding suitable sources of funding and the decision on the most appropriate uses for those funds. Although student and family characteristics account for most of the variability in dropout rates, about 20 percent can be attributed to four characteristics of schools: the composition of the student body, resources, structural features, and policies and practices (Rumberger, 2008; Sarra, Fontanella & Di-Zio, 2018).

Students are less likely to drop out if they attend schools with a stronger academic climate, as measured by more students taking academic courses and doing homework. On the other hand, students are more likely to drop out in schools with a poor disciplinary

climate, as measured by student disruptions in class or in school (Samuel, Mulwa, Migosi, & Kamau, 2017; Sarra, Fontanella & Di-Zio, 2018).

Iroegbu, Abashi, and Ogunode, (2021), did a study on problems facing the undergraduate students of Federal University Wukari. The study revealed infrastructural problems such as inadequate male and female hotels, lecture halls, laboratories, and libraries. Others are unstable power supply, poor internet services and inadequate water supply. Administrative problems include misplacement and missing of exams scripts, delay in release of results, while academic problems involve poor teaching and learning activities, inconsistency in keeping the time table of lectures. These nexus is what the study evaluates with the intent to proffer possible solutions to it. Strike action, insecurity and financial challenges are the social problems. Difficulties in course registration and screening, challenges of coping with payment of school fees are procedural problems facing the undergraduate students of Federal University Wukari, (Ade-Ajayi & Olaniyi, 2019).

Duze, (2010) investigated the problems encountered by postgraduate students that hindered their studies in Nigerian universities. The findings revealed that the system is plagued with numerous complex and deep-rooted problems ranging from systems/procedural problems to socio-political problems, personal/psychological problems, and that these problems actually hindered their studies and contributed to late graduation. Ige (2014) examined the challenges public tertiary students are facing to include: inadequate classrooms, ill equipped library and laboratories, incessant closure of institution as a result of student's unrest, cultism and strikes, inadequacy and non-commitment of some lecturers, just to mention a few (Mabel & Britton, 2018).

Guzmán, Barragán & Cala-Vitery, (2022) posited that cost of educating a student includes recurrent and capital expenditure which are the total actual financial cost used to

run the university in a given academic session. Recurrent expenditure involves personnel salaries and overhead cost. Salaries and allowances of teaching and non-teaching staff in the university are very important as they constitute more than 80% of the recurrent expenditure of the university. Other overhead expenditure includes the cost of stationaries, repairs, and maintenance among others. Capital cost of expenditure on durable assets such as school site, building furniture and fittings equipment, vehicles, audio visual aids and books which are expected to yield benefits over a long period are also seen as a factor (Nishat, Islam, Biplob, Mustain, Hossain, 2020; Guzmán, Barragán, Cala-Vitery & Segovia-García, 2022).

The wastage rate and cost appear to be more among first time undergraduate in the universities. They have a higher rate of failure, probation and withdrawal. Ideally, every first time student that gains admission into the university, is expected to spend a year at the first level, but this is not always the case as many repeat the levels and some others are advised to withdraw after the first year. This situation is a drain on the resources of the university.

Statement of the problem

In Nigeria, the government has invested financial resources in education to support the production of critical manpower, especially at the university level. For instance, the federal government has allocated 18 billion on the average in the last 5 years to the existing 40 federal universities in the country (NUC. 2019). This investment notwithstanding, some of the universities are observed to be internally inefficient as it takes an average undergraduate a longer time beyond the normal year to graduate from the system. Besides, the university completion rate is also a source of concern to many stakeholders. This situation is worrisome because the scarce fiscal resources invested in the schools have alternative uses in other sectors of the economy.

More worrisome is the first time undergraduates despite their efforts to gain admission into the university, after they have passed West Africa Examination Certificate (WAEC) and it equivalent, Unified Tertiary Matriculation Examination (UTME) and Post Unified Tertiary Matriculation Examination (PUTME). They seem to be more affected by high failure rate, involving carryover courses, probation and withdrawal from the university. For instance, at the end of the 2020/2021 academic session in the University of Calabar, a list of over 500 withdrawn students was published. Earlier in the 2016/2017 academic session in the University of Benin, out of the 7839 student that were enrolled for 100 level, only 3364 students were successful without any carryover courses. Three thousand, seven hundred and twenty-one (3721) student carried over courses to the next level, two hundred and fifty-six (256) students probated, while four hundred and ninety-eight (498) students were withdrawn from the university (Academic Planning Division, University of Benin, 2018). This could also be a trend in other universities. The researcher is therefore, worried about the cost implications of first time undergraduate wastages and desires to know thereof, what is the unit cost of wastage among first time undergraduate in public universities in South South, Nigeria?

Purpose of the study

1. To ascertain the rate of student wastages among first-time undergraduate in South South Nigerian public universities

2. To investigate whether there is a variation in the rate of student wastages among first time undergraduate according to programmes in public universities in the South-South universities.

Research questions

The following research question guided the study.

1. What are the rate of students 'wastages among first-time undergraduates in South-South Nigerian public universities?

2. What are the variation in the rate of students' wastages among first time undergraduates in South-South Nigerian public universities according to programmes?

Research design and methods

A descriptive research was used for this study using the expost facto design. The population of the study comprised of all the 10 conventional public universities in the South-South geopolitical zone of Nigeria, 112 programmes in these universities and all the first time undergraduate students in the universities. Stratified random sampling techniques was used in the selection of the sample for the study. The purposive sampling technique was also used to select four universities based on ownership and generation of universities. Based on ownership, two (2) federal universities and two (2) state universities were selected. Based on the generation of the university, one university was selected each from the first generation, second generation, third generation and fourth generation universities.

The stratified random sampling techniques was used to select sixty-six (6) programmes which represented 5% of one hundred and twelve programmes. The selected programmes were political science, English language, accounting, agricultural science, civil engineering and mathematics. Two Thousand, Six Hundred and Seventy-Six (2,676) first time undergraduates in the six programmes selected form the sample. An instrument tagged "student enrollment and flow information checklist (SEAFICT) was used to collect data for

the study. The instrument was validated by research experts in educational management and test and measurement. The checklist did not require reliability test; therefore, reliability test was not done for this instrument used in this study. The research questions were answered using data collected with the instrument, where descriptive statistics of simple percentage, mean rating, ratio and charts were used for data analyses.

Results

The results of the study are presented as follows:

Research question 1: What are the rate of students' wastages among first time undergraduates in South-South Nigerian public universities?

The data used to calculate the wastage rate were from Student Enrolment and Flow Information Checklist (SEAFCC). The result is shown on Table 1.

Table 1: Wastage rate among first time undergraduate students in South-South Nigerian public universities 2016/2017 academic session in the selected programme.

No. of Universities	Total Enrolment	Students Probation	Student Withdrawal	Wastage	Wastage Rate
4	2676	214	94	308	11.51
	Mean %	8.0	3.51	-	11.51

The result from Table 1 showed that out of two thousand six hundred and seventy-six (2676) students enrolled in the sampled institution and programmes in the year under study, two hundred and fourteen (214) students were probated and ninety-four (94) students were withdrawn from the university, giving a total wastage of three hundred and eight (308) students and a wastage rate of 11.51%. The number of student that probated was two

hundred and fourteen (214) giving a mean percentage probation rate of 8.0%, while ninety-four (94) students withdraw from the system with a mean percentage rate of 3.51%. Figure 1 further presents the number of students that probated and those that withdrew from the universities.
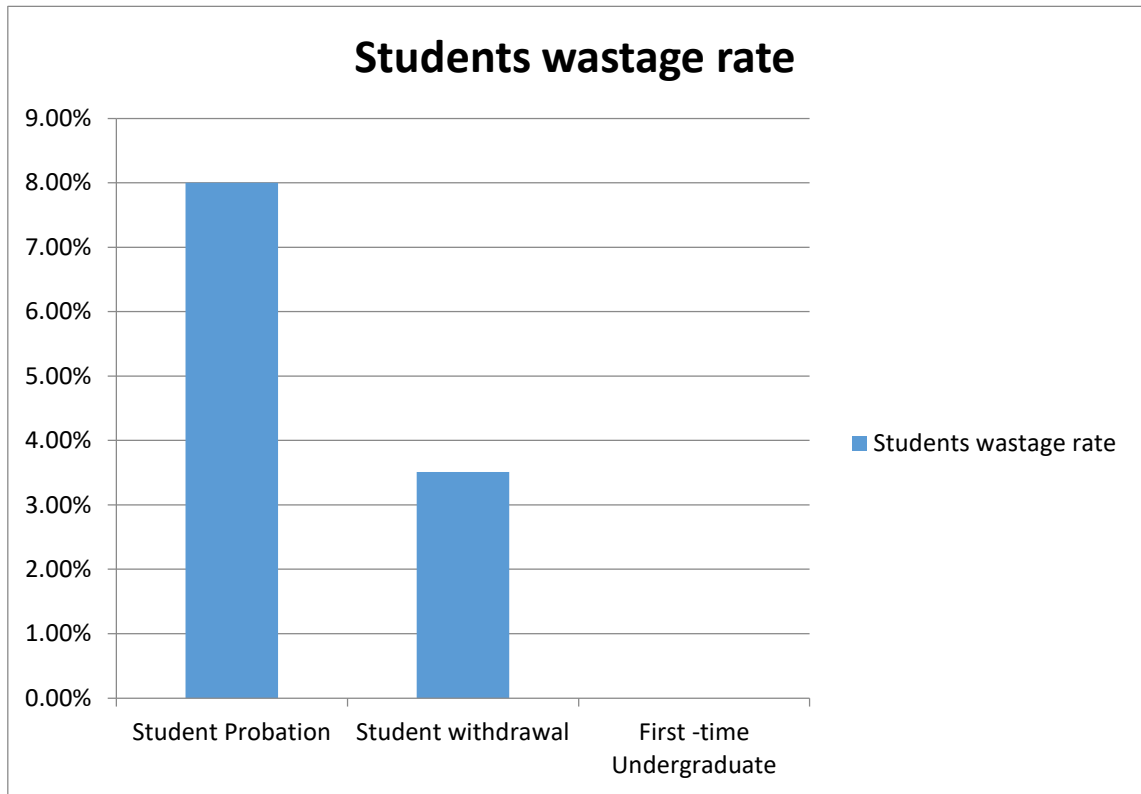

Figure 1: Students wastage rate among the first undergraduates in South-South Nigerian public universities

Research question 2: what are the variations in the rate of wastages among first-time undergraduate students in South-South Nigerian public universities according to programmes?

The rate of wastages among first time undergraduate students in South-South Nigerian public universities according to programmes in presented on Table 2.

The result on table 2 shows the mean percentage wastage rates for humanities and science-based courses as shown in Table 3 are 10.68% and 12.37% respectively. This indicates that there was a variation in the rate of wastage among the first-time

undergraduate in South-South Nigerian universities according to programme. The difference in the wastage rate between humanities-based courses and science-based course was 1.69%. The data on table 2 show that a total of 145 students constituted wastage, giving a mean wastage rate of 10.68%. The highest wastage rate for the humanities occurred in English (12.90%) followed by Accounting 10.39% while the least was recorded in Political Science (7.52%).

Table 2: The wastage rate among first time undergraduates according to programmes in South-South Nigerian public universities.

Programmes		Enrolment	Probation	Withdrawals	Wastage	Wastage Rate (%)
Humanities	Pol. Sci.	359	21	6	27	7.52
	English	566	48	25	73	12.90
	Accounting	433	25	20	45	10.39
Subtotal		1358	94	51	145	10.81
Mean%			6.92	3.76		10.68
Science	Agric.	273	15	5	**20**	7.33
	Civil Eng.	432	39	19	58	13.43
	Mathematics	613	66	19	85	13.87
Subtotal		1318	120	43	163	34.63
Mean %*			9.11	3.26		12.37
Grand Total		**2676**	**214**	94	**308**	**11.51**

The information on table 2 further revealed that out of the 1318 first time undergraduate students that enrolled in the sciences within the period of the study, 120 probated, while 43 withdrew from the Universities, giving a total wastage rate of 163

(12.37%). The data show that the wastage rates was highest in Mathematics, 85 (13.87%), followed by Civil Engineering 58 (13.43%), while the least was recorded in Agricultural Economics 20 (7.33%). Figure 2 farther illustrates the variation in wastage rates among the first-time undergraduate students in South-South Nigerian public Universities according to programmes.
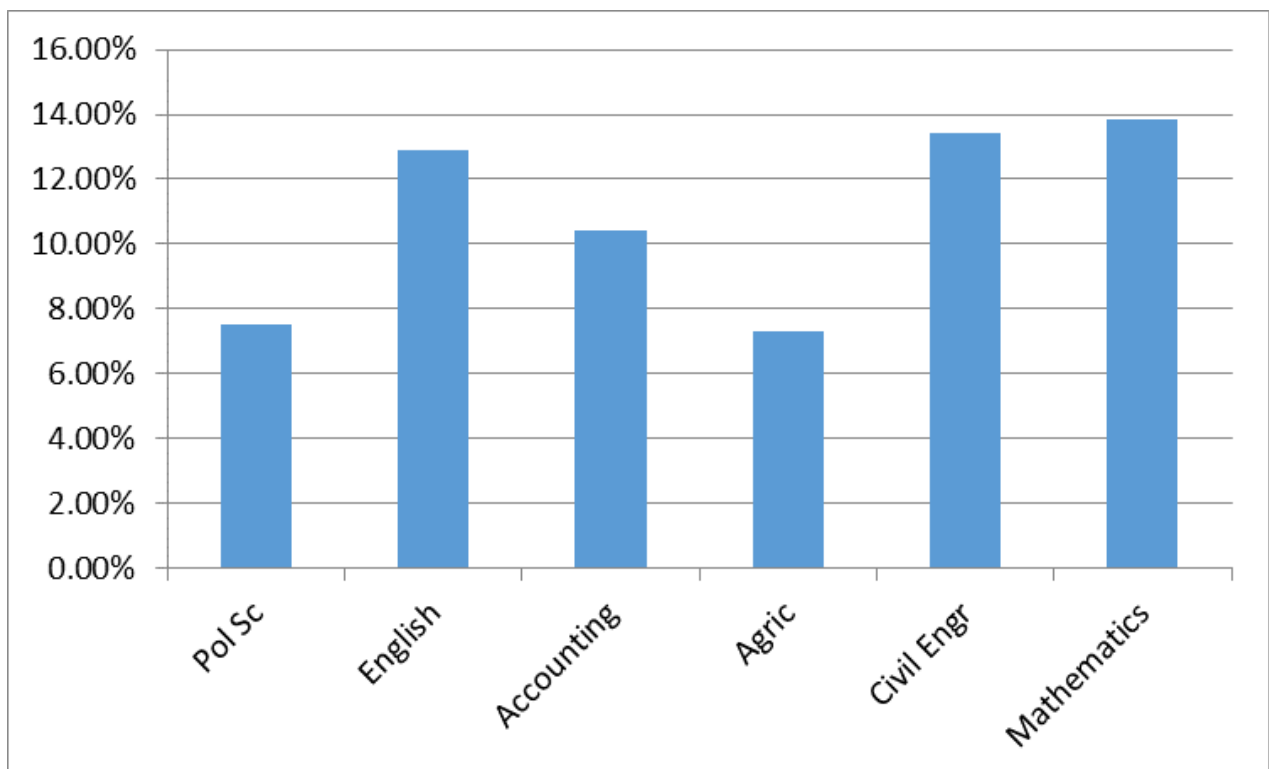

F*ig. 2: Mean percentage wastage rate according to programmes in South-South Nigerian*

Discussion

The result of the study is primarily based on the two research questions that were formulated to serve as a guide to the study. Data analysis in research question one reveled that wastage is increasing the social and household expenditure on education in sub-Sahara Africa and Nigeria inclusive. Student wastages consist one of the major cost elements in education financing. Adeyemi and Ajayi (2006) and Nishat, et al., (2020) supported this finding in their analysis of the cost of spillover students' wastage in a Nigerian university. Their findings showed that wastage due to spillover was relatively high and as such a

colossal sum of public fund is wasted to maintain students who could not graduate at the ideal student year, thereby having an extra academic session(s) to repeat failed courses.

Data analysis in research question two showed that variation exists in the unit cost wastage among first-time undergraduates in South-South Nigerian public universities based on programmes. The result showed that the unit cost of wastage among first-time undergraduate students in humanities was 1,221,723, while the unit cost of the first-time undergraduates in sciences was 1,513,830. These findings showed that the unit cost of wastage among first-time undergraduates in the sciences was higher than that of humanities. The study further revealed that there were variations in the unit cost of wastages among first-time undergraduate students in the different programmes within humanities and the sciences. The unit cost of the different programmes could be responsible for the rate of wastages. This finding supported the finding of Oyetakin and Adonays (2013) who found variation in the unit cost of wastages among undergraduate students in South-South Nigerian public universities.

Conclusion

This study concluded that cost of wastages is a rip-off on the purse of the universities and the students. Variation existed in the unit cost of wastage on variable of the programme of study. It is therefore important for the university system to be more effective and efficient in the utilization of resources for maximum goal attainment in human capital production.

Recommendation

Based on the findings, the following recommendations were made:

1. University managements should improve on the internal efficiency of their universities. There is need to improve on their production functions to reduce the

rates of wastages and cost among first-time undergraduate students in the universities.

2. University management should strengthen existing policies that should reduce the wastage rate and its cost among undergraduate students.

3. The summer school system in which the students are given opportunities to attend lectures or intensive coaching classes during the holidays and thereafter they are allowed to rewrite their failed courses should be introduced into the Nigerian university system.

4. More learning facilities especially in practical materials should be made readily available to students in the sciences to reduce the wastage rate in the science programmes.

5. All stakeholders in the university education, the government, universities management, parents, family members and the entire society should support to bridge the gap in variations in wastage rate and cost among undergraduate students.

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