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Attitude and Behavioural Intention Towards Online Learning Tools: An Empirical Study of College of Education Students in North Central Nigeria

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ABSTRACT

This study examined the relationship between College of Education students' attitudes, behavioral intentions, and actual use of online learning resources in North Central Nigeria. A structured questionnaire was used to collect data, which was then analyzed quantitatively. The findings show no significant relationship between students' perceptions of online learning resources and their actual use. Similarly, students' behavioral intentions did not significantly influence their use of the resources. These findings call into question traditional technology adoption models, which assume that positive attitudes and strong intentions directly drive usage. External factors, such as accessibility, digital literacy, and institutional support, seem to play a more important role. This suggests that simply promoting positive attitudes and intentions may not result in increased adoption. To increase utilization, institutions should prioritize improving digital infrastructure, incorporating online resources into curricula, and implementing targeted training programs. The study emphasizes the importance of addressing systemic barriers rather than relying solely on attitudinal changes for successful digital learning adoption.

Keywords: *Attitude; Behavioral Intention; Online Learning Tools; Technology Utilization; College of Education; North Central Nigeria*

INTRODUCTION

Technology's rapid advancement has drastically changed the nature of education, especially in higher education. A key component of contemporary pedagogy is the incorporation of online learning resources, which provide educators and students with fresh approaches to improving instruction. These tools support flexible learning environments that meet the needs of a wide range of students, make digital resources easier to access, and allow interactive learning. However, students' attitudes and behavioral intentions regarding the use of online learning tools play a significant role in their effective utilization, even with their growing availability and potential advantages (Hameed *et al.,* 2024). Optimizing the use of online learning tools and their impact on academic performance requires an understanding of the factors that affect students' perceptions and willingness to adopt them.

Attitude plays a crucial role in shaping students' acceptance and usage of online learning tools. Attitude refers to an individual's positive or negative evaluation of a particular object, behavior, or phenomenon. In the context of online learning, students' attitudes toward digital tools are influenced by various factors, including their prior experiences with technology, perceived benefits, ease of use, and institutional support (Alshammari & Alkhwaldi, 2025). A positive attitude toward online learning tools is likely to enhance students' engagement and motivation, leading to higher adoption rates (Lasekan, et al., 2024). Conversely, a negative attitude may hinder their willingness to embrace these technologies, thereby limiting their potential benefits. Conversely, behavioral intention indicates the degree to which a person is prepared to participate in a particular behavior

(Xiuchun et al., 2024). Students' intention to integrate digital resources into their learning routines is reflected in their behavioral intention when it comes to online learning tools. Perceived utility and perceived ease of use are important factors that influence behavioral intention, according to the Technology Acceptance Model (TAM), a popular framework in research on technology adoption (Davis, 1989). According to Venkatesh and Davis (2000), perceived usefulness is the degree to which a student thinks that using an online learning tool will improve their academic performance, whereas perceived ease of use is the amount of work needed to use the tool efficiently. Students' behavioral intention to use online learning resources increases dramatically when they believe that these resources are both practical and simple to use (Alshammari & Alkhwaldi, 2025).

The use of online learning resources by College of Education students in North Central Nigeria poses particular opportunities and challenges (Bello et al., 2025). The area is home to a number of universities that are essential to the preparation of future teachers. Examining how students in these institutions view and plan to use online learning resources is crucial given the growing demand for technology-driven education. Students' attitudes and behavioral intentions may be influenced by a number of factors, such as socioeconomic circumstances, institutional policies, technological literacy, and access to digital infrastructure (Ezeudoka, & Fan, 2024). While some students might be excited about using online resources for their education, others might encounter obstacles like poor Internet access, a lack of digital literacy, or a reluctance to adapt (McHugh et al., 2024). According to empirical research, both internal and external factors can affect students' attitudes and behavioral intentions regarding online learning resources (Sitar-Tăut et al., 2024,; İbili, et al., 2024). Self-efficacy, motivation, and past technological experience are examples of internal factors; peer pressure, institutional support, and the accessibility of technological resources are examples of external factors (Li et al., 2024). Due to frustrations with technical issues and erratic Internet services, students in areas with limited access to digital infrastructure may grow disenchanted with online learning resources (Ramos et al., 2024). Conversely, students who have received sufficient instruction and assistance from their educational institutions are more likely to grow to have favorable attitudes and show strong behavioral intentions when it comes to using online learning resources.

The significance of online learning resources in education was further highlighted by the COVID-19 pandemic. Many educational institutions around the world switched to remote learning during the pandemic, which made it necessary to use digital platforms like Zoom, Google Classroom, and Learning Management Systems (LMS) (Kılıç, & Gökoğlu, 2025). Students were introduced to new digital learning environments as a result of this change, which brought to light the advantages and difficulties of online education. The pandemic hastened the adoption of online learning resources in North Central Nigerian colleges of education, encouraging students to interact with technology in previously unheard-of ways (Cermak, 2021). Research is still needed to determine how much this experience has affected their attitudes and behavioral intentions. The role of digital literacy is another crucial factor to take into account when analyzing students' attitudes and behavioral intentions toward online learning resources. According to Sinha and Ugwulebo, (2024), digital literacy is the capacity to communicate, retrieve information, and solve problems using digital technologies. Higher digital literacy increases the likelihood that students will accept online learning resources and believe they will help them succeed academically (Edwards, 2018). On the other hand, people with poor digital skills might find it difficult to use digital platforms, which could make them frustrated and reluctant to use online learning resources (Getenet et al., 2024). To improve students' confidence and proficiency with online learning resources, educational institutions must fund digital literacy training initiatives (Mardiana, 2024).

Furthermore, students' attitudes and behavioral intentions can be influenced by psychological and cultural factors. Due to traditional beliefs that value in-person interactions over digital learning, students may occasionally be skeptical of online learning (Valadez, 2024). Furthermore, students'

willingness to fully utilize online learning resources may be impacted by worries about their legitimacy and dependability. Students' opinions of online learning resources can also be influenced by psychological elements like anxiety, fear of failing, and a lack of motivation. A comprehensive strategy that incorporates capacity-building programs, awareness campaigns, and the availability of trustworthy digital resources may be needed to address these issues.

Another important element that may influence students' attitudes and behavioral intentions regarding online learning resources is institutional support. North Central Nigerian education colleges need to establish a supportive atmosphere that promotes the use of technology in the classroom (Ambe, et al., 2024). This entails setting up policies that encourage the use of online learning platforms, training faculty members to successfully incorporate digital tools into their teaching methods, and providing sufficient technological infrastructure. Students are more likely to adopt favorable attitudes and exhibit strong behavioral intentions toward using online learning resources when they believe that their institutions are dedicated to promoting digital learning (Iyorhii, & Mando,2024).

A complex interaction of factors, such as attitudes, behavioral intentions, digital literacy, institutional support, and socioeconomic conditions, affects the adoption of online learning tools in North Central Nigerian colleges of education. This study intends to investigate these elements in order to offer empirical data that can guide tactics for enhancing the adoption and use of online learning resources. In order to successfully integrate digital learning tools into the educational system, it is crucial to cultivate positive attitudes and strong behavioral intentions among students as technology continues to shape the future of education.

Statement of the Problem

Online learning resources are becoming more and more integrated into higher education, but College of Education students in North Central Nigeria are still not always using them effectively. Students' attitudes and behavioral intentions regarding the adoption of these tools vary greatly, despite the fact that they provide flexibility, accessibility, and improved learning experiences. Therefore, this study examines college of education students' attitudes and behavioral intentions regarding online learning tools in North Central Nigeria.

Purpose of the Study

The main purpose of this study is to investigate the attitude and behavioral intention of College of Education students towards online learning tools in North Central Nigeria. Specifically, this study;

1. examines College of Education students' intention towards the use of online tools for learning in North Central, Nigeria
2. examines the attitude of College of Education students towards the use of online tools for learning in North Central, Nigeria
3. determines the relationship between students' attitudes towards online instructional tools and their utilization for learning in North-Central Colleges of Education
4. determines the relationship between students' intention to use and their utilization of online instructional tools for learning in North-Central Colleges of Education

Hypotheses Testing

The following hypotheses are formulated and tested at 0.05 level of significance;

HO_1: there is no significant relationship between students' attitudes towards online instructional tools and their utilization for learning in North-Central Colleges of Education

HO_2: there is no significant relationship between students' Intention to use and their utilization online instructional tools for learning in North-Central Colleges of Education

LITERATURE REVIEW

Students' Attitudes Towards Online Instructional-Tools for Learning

The complex nature of students' attitudes toward technology in the classroom has been further examined in recent studies. Ogba, and Onwu, (2024) opined that teachers in Nigeria who have a positive attitude toward technology are more likely to use it in the classroom. Similarly, Adam and Too (2024) investigated the attitudes of educators in southwest Nigeria regarding the use of information and communication technology (ICT) and discovered a strong correlation between their attitudes and their acceptance and utilization of ICT in the delivery of instruction. These results highlight how crucial it is to cultivate positive attitudes in order to improve the integration of technology in educational settings.

Additionally, Alieto, et al., (2024) found that Nigerian teachers are more likely to use technology in the classroom if they have a positive attitude toward it. Similarly, Ugboma et al., (2024) examined how teachers in southwest Nigeria felt about using information and communication technology (ICT) and found that their opinions were strongly correlated with their acceptance and use of ICT in the classroom. These findings demonstrate how important it is to foster positive attitudes in order to enhance the use of technology in classrooms. Ali et al., (2025) examined the behavioral intentions of college students to use metaverse technologies. The findings showed that attitudes and perceived usefulness are positively influenced by self-efficacy and subjective norms, highlighting the significance of individual beliefs and social influences in technology adoption. However, the study also found no significant correlation between perceived usefulness or attitude and perceived ease of use, suggesting that positive attitudes require understanding and knowledge of new technologies. These recent studies contribute to a deeper understanding of the factors influencing attitudes toward technology in education by emphasizing the importance of social influences, self-efficacy, and personal experiences in shaping these attitudes.

Students Intention to use Online Instructional-Tools for Learning

Educational research has focused a lot of attention on the connection between students' intention to use online instructional tools and their actual use of these tools. The Technology Acceptance Model (TAM), which holds that perceived utility and perceived ease of use are the main determinants of an individual's intention to use technology, is frequently used to analyze this relationship (Davis, 1989). Students' intentions regarding online instructional tools are influenced by their perceptions of the advantages these resources provide for improving learning outcomes and how simple it is to incorporate them into their study schedules.

Since students are more likely to integrate online instructional tools into their learning processes when they believe they are useful and simple to use, a strong intention to use them is typically linked to higher actual usage. This link between intention and use has been supported by numerous studies, which show that students who have higher intentions are more likely to regularly use online learning resources. Abubakar et al., (2025), for instance, discovered a significant correlation between students' intentions and actual use of e-learning platforms, indicating that intention is a powerful predictor of behavior in this setting. In a similar vein, Azizah, et al., (2025) found that students' intention to use online learning resources was a significant factor in determining how engaged they were with them, especially when those resources were thought to improve their academic performance.

However, there are a number of contextual factors that can affect the relationship between intention and use, making it not always clear-cut. For example, Abubakar, et al. (2024) added more

constructs to the TAM, like facilitating conditions and social influence, which also affect actual use. Cattaneo et al. (2025) conducted a study with college students and discovered that although the intention to use online instructional tools was a significant predictor of actual use, students' ability to follow through on their intentions was also significantly impacted by the availability of resources and support from peers and instructors. This implies that outside influences may help or impede students' actual use of online resources, even when they have a strong intention to do so.

Furthermore, the strength of the intention-use relationship may vary depending on the kind of online learning resource being utilized. For instance, there may be less of a relationship between intention and use for tools that demand a high learning curve or a substantial time commitment because students may want to use the tool but be discouraged by the amount of work needed (Harbatkin et al., 2025). On the other hand, there is typically a stronger intention-use correlation for tools that are easier to use and closely match students' learning needs. This is corroborated by earlier research by Park, Nam, & Cha (2012), who found that students' intention to use a learning management system (LMS) and their actual usage were both highly impacted by how easy they thought the system was to use.

Influence of Gender on the use of Online Instructional Tools for Learning

Particularly in the area of information technology, gender has been found to be a significant factor in understanding technology adoption (Yazici, & Nakıboğlu 2024). Gender disparities in the adoption and use of digital tools, such as computers, email, and electronic data management systems, have been studied and the impact of gender on the adoption of technology has also been extensively examined in earlier research. Gani et al., (2024) introduced a new software system to examine gender differences in technology use, the authors discovered that perceived usefulness had a greater impact on male adoption decisions while perceived ease of use had a greater impact on female adoption decisions.

The same conclusion was drawn by Yao and Wang, (2024) who found that gender has a significant impact on a person's willingness to adopt new technology, with men typically demonstrating greater technological competence than women. However, there have been conflicting results regarding the moderating impact of gender differences on the adoption of e-learning. For instance, Shahzad, et al. (2024) examined the adoption and acceptability of e-learning among students at Pakistan's Virtual University, taking gender into account as a moderating variable. According to their findings, learners' opinions of the value and usability of e-learning platforms are influenced by gender, especially in professional development settings. Due to their perceived professional benefits, male learners—who are frequently more career-oriented—showed a stronger intention to adopt e-learning tools. On the other hand, Rani, and Kumar, (2024) discovered that the degree of correlation between perceived utility, perceived ease of use, and the adoption of learning management systems (LMSs) was not significantly impacted by gender differences. This implies that students—regardless of gender—who have favorable opinions about the usability and ease of use of technology are more likely to embrace and make use of it in the future. These results suggest that although gender may have an impact on patterns of technology adoption, other elements like personal beliefs, experiences, and circumstances might be just as significant.

METHODOLOGY

Descriptive research of the correlational type was used in this study. The study is descriptive in the sense that it presents events as they actually occur, unaltered. Additionally, it gathers information that was utilized to address a variety of what, when, and how questions related to a specific population or group. The survey method involving the use of a standardized questionnaire to collect data about people and their preferences, thoughts, and behaviors in a systematic manner. To

obtain a thorough grasp of each student's viewpoints on the use of online resources for learning, the correlational research design was used among students in North Central Nigerian colleges of education. This method made it possible to investigate the connections between how students actually use these tools and how they perceive them, offering insights into the ways in which different factors may affect their educational experiences. All students enrolled in North Central Nigerian colleges of education make up the study's population. All college of education students at all Federal and State colleges of education in North Central Nigeria make up the study's target population. Students at private education colleges were excluded because they might not be allowed to divulge certain important information about their schools. The number of students enrolled in North Central Nigerian colleges of education as of the 2022–2023 academic year was used to calculate the target sample size.

To gather data for the analysis, College of Education students were chosen based on their gender from the chosen colleges using a stratified random sampling technique. This was carried out across departments in each of the colleges' chosen schools of education. 1426 college of education students were selected for the study using a proportional sampling technique based on the Research Advisors' Model (2006). A questionnaire modified from earlier research by Lund (2001), Moon & Kim (2001), and Olasedidun (2014) served as the data collection tool. Items were chosen based on their applicability to attitudes regarding the use of online learning tools and their intention to use them. The questionnaire's ability to collect data from a large number of respondents in a comparatively short amount of time led to its selection as an instrument. In order to allow the respondents to give accurate and pertinent answers to the questionnaire based on their individual intentions and attitudes regarding the use of online learning resources, it was structured in a straightforward and uncomplicated manner. Three lecturers from the University of Ilorin's Department of Educational Technology validated the study's instrument to ascertain its appropriateness and relevance.

They took into account how well the respondents understood the language, how well the content was covered, and how pertinent it was to the stated goals. The instrument's final draft was created using their feedback, recommendations, and corrections. Fifty copies of the instruments were pilot-tested on College of Education students at the Federal College of Education Special, Oyo, which is not the study's sample location, in order to assess the instrument's reliability. Section by section, the reliability coefficient of the instrument was determined at the 0.05 level of significance using the Cronbach Alpha statistical tool. For the reliability analysis, 45 of the 50 copies of the questionnaire that were given out for the trial testing were returned as correctly completed. Section by section, the reliability coefficient of the instrument was determined using the Cronbach Alpha statistical tool. Regarding attitudes toward the use of online learning tools and intentions to use them, the reliability coefficients were 0.78 and 0.88, respectively. Since reliability should generally be at least 0.70 in research, all of the results demonstrated high internal consistency of the items in the research instruments.

RESULTS

Demographic Information

The key characteristics of the study participants are summarized in this section. A questionnaire was given to the respondents in order to ensure the accuracy and collection of the data. Tables are also used to display the analysis's findings and the respondents' demographic data.

Table 1: *Respondents Distribution by Gender*

Gender	Frequency	Percentage
Male	524	36.70%
Female	902	63.30%
Total	1426	100.00%

The demographic distribution of respondents by gender is shown in Table 1. The data shows that 524 (36.70%) of the 1426 respondents were men and 902 (63.30%) were women. According to this gender distribution, there were more female respondents than male respondents in the study.

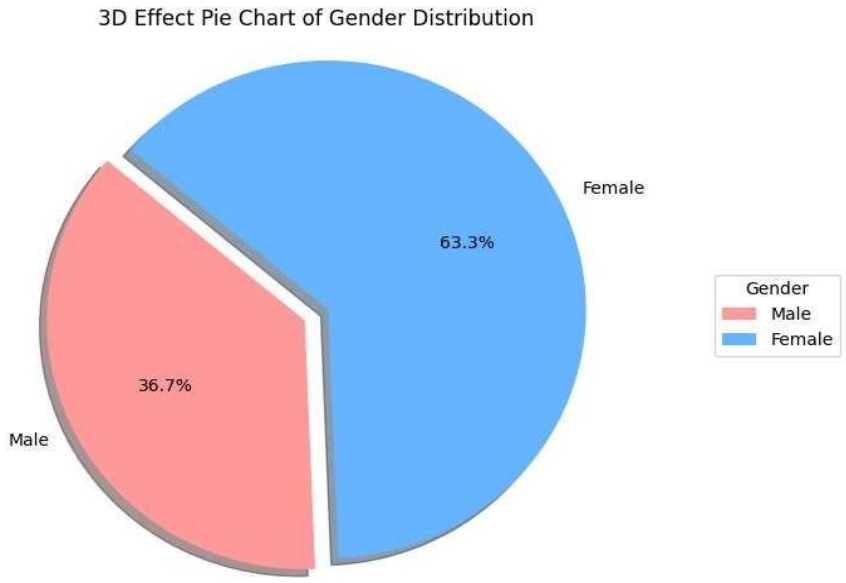

Figure 1: Pie Chart Representing Demographic Information by Gender

Notable demographic trends can be seen in Figure 1 above, which shows the gender distribution of respondents within Colleges of Education. There is a definite high proportion of female respondents, with 63.30% of the total respondents being female and 36.70% being male. This disparity in gender may be a reflection of larger patterns in the Colleges of Education, such as increased female participation in surveys and academic pursuits or higher female enrollment rates.

Hypotheses Testing

$HO_{1:}$ there is no significant relationship between students' attitudes towards online instructional tools and their utilization for learning in North-Central Colleges of Education.

Table 2: *Significant Relationship Between Students' Attitudes Towards Online Instructional Tools and their Utilization for Learning in North-Central Colleges of Education*

Variable	Mean	Standard Deviation	Pearson Correlation	P-value
Attitude	2.98	0.50	0.06	0.81
Utilization Score (Y)	3.14	1.20		

A Pearson correlation analysis was performed to test the hypothesis about the relationship between North-Central Colleges of Education students' attitudes toward online instructional tools and their use for learning. 3.14 (SD = 1.20) was the mean utilization score, and 2.98 (SD = 0.50) was the mean attitude score. There was a positive correlation, as indicated by the Pearson correlation coefficient (r) of 0.06. The analysis demonstrates that the relationship is not statistically significant with a p-value of 0.81, which is significantly higher than the 0.05 significance level. The null hypothesis, which states that there is no meaningful correlation between students' attitudes toward online learning resources and their use for learning, was thus not rejected.

$HO_{2:}$ there is no significant relationship between students' Intention to use and their utilization online instructional tools for learning in North-Central Colleges of Education

Table 3: *Significant Relationship Between Students' Attitudes Towards Online Instructional Tools and their Utilization for Learning in North-Central Colleges of Education*

Variable	Mean	Standard Deviation	Pearson Correlation	P-value
Intention	3.17	0.60	0.07	0.92
Utilization Score (Y)	3.14	1.20		

Pearson correlation analysis was performed in order to test the hypothesis HO_2, which states that there is no significant relationship between students' intention to use online instructional tools and their use for learning at North Central Colleges of Education. The average score for utilization was 3.14 (SD = 1.20), and the average score for intention was 3.17 (SD = 0.60). A very weak positive correlation was indicated by the Pearson correlation coefficient (r), which was 0.07. The statistical significance threshold of 0.05 is substantially exceeded by the p-value of 0.92. The conclusion that there is no statistically significant correlation between students' intention to use online instructional tools and their actual use of these tools for learning was reached as a result of not rejecting the null hypothesis.

DISCUSSION

Two important conclusions can be drawn from these findings of the study: first, there is no correlation between students' opinions about online learning resources and their use for education. The second finding is that there is no statistically significant correlation between students' intention to use online learning resources and their actual use of them. The Technology Acceptance Model (TAM) and related frameworks' widely accepted assumptions that attitude and intention are powerful predictors of technology adoption are called into question by these findings. Deeper understanding can be gained by critically analyzing these findings in light of the body of existing literature.

The insignificant relationship between students' attitudes and their actual use indicates that frequent positively or negatively meaningful use of these tools is not always correlated with a perception of them. This runs counter to TAM-based research that suggests attitudes toward technology have a significant impact on behavioral adoption (Hameed *et al.,* 2024).

For example, Alieto, et al., (2024) discovered that students were more likely to incorporate digital learning tools into their study routines if they had a positive attitude toward educational technology. In a similar vein, Al-Rahmi et al. (2018) showed that increased engagement and interaction were associated with favorable attitudes toward e-learning. The results of this study, however, imply that actual utilization may be more influenced by external factors other than attitude. Alternative explanations for this disparity are offered by a number of studies. According to Ngampornchai & Adams (2016) and Hennessy et al. (2021), students may have favorable opinions about technology, but their actual use is constrained by their lack of access to devices, reliable Internet, or digital literacy. Ifenthaler & Schweinbenz (2016) also noted that without proper institutional support and structured training, even students who have positive attitudes toward digital learning tools might not use them efficiently. Furthermore, even strongly favorable opinions about online resources can be overshadowed by ingrained study habits and resistance to change, according to Alqahtani & Rajkhan (2020). These results imply that in order to increase the actual use of online instructional tools, interventions should address institutional, logistical, and motivational barriers in addition to influencing students' attitudes.

Similarly, the assumption that students who indicate an intention to use online instructional tools will inevitably use them is called into question by the absence of a statistically significant correlation between their intention and actual use. According to Venkatesh et al. (2003), the Unified Theory of Acceptance and Use of Technology (UTAUT) framework, behavioral intention is a powerful predictor of technology adoption. Nonetheless, a number of studies provide arguments in opposition to the current findings. According to research by Abubakar et al., (2025) students in resource-constrained settings had trouble converting their high levels of intention into actual utilization because of unstable power supplies, limited device access, and poor Internet connectivity. Additionally, Sun & Rueda (2012) noted that students who had originally planned to use e-learning platforms eventually stopped doing so because they were experiencing cognitive overload or had trouble navigating complicated digital environments. Furthermore, Cheng & Xie (2021) pointed out that although some students may express a desire to use digital learning resources as a result of external pressures or institutional pressure, their involvement is only surface-level and does not result in regular use.

Furthermore, research on college students' use of technology (Agbo, 2020) indicates that outside factors like course requirements, peer pressure, and faculty support frequently take precedence over personal intentions when determining actual usage. This indicates that although students may convey intentions, contextual and environmental factors have a greater influence on their actual behavior. Regardless of students' attitudes or intentions, these findings highlight the significance of removing structural and systemic barriers that may prevent them from using online learning resources.

CONCLUSION AND RECOMMENDATIONS

According to the study's findings, students' intentions and attitudes regarding online learning resources have little bearing on how often they are actually used. These results cast doubt on traditional models of technology adoption and emphasize the importance of taking into account outside variables like course requirements, institutional support, and infrastructure when determining how students use digital learning resources. Institutions should place a high priority on enhancing digital infrastructure, guaranteeing dependable Internet access, and incorporating online

resources into coursework through organized engagement in order to increase utilization. To improve digital literacy, training programs for teachers and students should be put into place. In order to promote gradual adoption, blended learning strategies should also be promoted. Data-driven policies that close the gap between intended and actual use will be aided by routine evaluations of students' digital needs and usage habits.

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