



The Influence of Technological Innovation and Employee Creativity on Organizational Performance at Misan University.

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Abstract. Today, higher education is one of the pillars of development and economic growth for every country in the world. The absence of innovation in higher education is one of the primary problems that Iraqi universities confront and still unable to overcome. This situation could be attributed to the dearth of strategic innovation programs and a lack of creativity in lecturing. Therefore, this study proposes a framework that fits innovation practices and employee creativity into the organizational performance of Misan University in Iraq. Quantitative methods were used to test the hypotheses and validate the fitness of the conceptual framework with the empirical data. Simple random sampling technique was used in the survey procedure. The study sample includes 500 lecturers, whereas 422 valid questionnaires have been included in the data analysis. The results show that innovation practices and creativity have a significant effect on the organizational performance of Misan University. These findings provide evidence that achieving superior performance in higher education no longer depends on the deployment of tangible assets like financial resources or the number of academic staff and faculty, but also on intangible assets such as creative lecturing and adopting innovation practices in the learning process. Thus, this study recommends that higher education institutions in Iraq focus on recruiting creative lecturers who can improve students' learning ability by promoting new ways of learning scientific materials in parallel with an innovation strategy in all organizational functions and processes.

Keywords: Employee Creativity; Higher Education Institutions; Innovation Practices; Organizational Performance

Abstrak. Saat ini, pendidikan tinggi merupakan salah satu pilar pembangunan dan pertumbuhan ekonomi bagi setiap negara di dunia. Ketidadaan inovasi dalam pendidikan tinggi merupakan salah satu masalah utama yang dihadapi universitas-universitas Irak dan masih belum dapat diatasi. Situasi ini dapat dikaitkan dengan minimnya program inovasi strategis dan kurangnya kreativitas dalam perkuliahan. Oleh karena itu, penelitian ini mengusulkan suatu kerangka kerja yang menyesuaikan praktik inovasi dan kreativitas karyawan dengan kinerja organisasi Universitas Misan di Irak. Metode kuantitatif digunakan untuk menguji hipotesis dan memvalidasi kesesuaian kerangka kerja konseptual dengan data empiris. Teknik pengambilan sampel acak sederhana digunakan dalam prosedur survei. Sampel penelitian mencakup 500 dosen, sedangkan 422 kuesioner yang valid telah disertakan dalam analisis data. Hasil penelitian menunjukkan bahwa praktik inovasi dan kreativitas memiliki pengaruh yang signifikan terhadap kinerja organisasi Universitas Misan. Temuan ini memberikan bukti bahwa mencapai kinerja yang unggul dalam pendidikan tinggi tidak lagi bergantung pada penggunaan aset berwujud seperti sumber daya keuangan atau jumlah staf akademik dan fakultas, tetapi juga pada aset tidak berwujud seperti perkuliahan yang kreatif dan penerapan praktik inovasi dalam proses pembelajaran. Oleh karena itu, penelitian ini merekomendasikan agar lembaga pendidikan tinggi di Irak berfokus pada perekrutan dosen kreatif yang dapat meningkatkan kemampuan belajar mahasiswa dengan mempromosikan cara-cara baru dalam mempelajari materi ilmiah secara paralel dengan strategi inovasi dalam semua fungsi dan proses organisasi.

Kata kunci: Kinerja Organisasi; Kreativitas Karyawan; Lembaga Pendidikan Tinggi; Praktik Inovasi

1. INTRODUCTION

Higher education institutions play a crucial role in advancing society. Universities not only shape individuals' thinking but also develop specific skills that contribute to social and economic development (Iqbal et al., 2019). In many countries, higher education is considered the cornerstone of national progress (Sabah, 2013). Today, access to high-quality education is among the most fundamental needs for economic growth and development globally (Meléndez & Parker, 2019). Without the support of higher education institutions, nations will struggle to sustain economic growth and achieve their developmental goals.

In this regard, creativity and innovation are essential components that enable universities to achieve strategic objectives and demonstrate outstanding organizational performance (Alt et al., 2023; Liu et al., 2023). Therefore, focusing on fostering creativity and innovation within modern universities is vital to maintaining and enhancing institutional performance (Anderson et al., 2014; Dima et al., 2019). Nonetheless, international higher education faces considerable challenges. Public universities tend to perform below private institutions, making it increasingly difficult to ensure educational quality (Yeni et al., 2019).

The performance of higher education institutions is influenced by several factors, such as innovation capacity and academic staff professionalism. Without creativity and innovation, organizations will struggle to grow or operate efficiently (Elidemir et al., 2020). Hence, addressing the obstacles that hinder the adoption of innovation and creativity in higher education is imperative (Paul & Jared, 2018). In Iraq, the lack of innovation in the higher education system remains a major unresolved issue. This situation is often attributed to the absence of strategic innovation programs (Al-Ardawi, 2020) and a lack of originality among lecturers who still rely heavily on traditional teaching methods.

Moreover, bureaucratic cultures prevalent in Iraqi universities often hinder the implementation of innovative projects and staff development initiatives. The rapid advancement of technology requires agility and resilience from university leaders. Unfortunately, this scenario has not yet been critically analyzed, leaving Iraqi universities with limited opportunities to compete globally. Misan University, like other institutions outside Iraq, needs to cultivate an academic environment grounded in creativity and innovation to improve educational performance and progress.

Although the global literature is rich in studies on innovation in higher education institutions, research on employee creativity within these institutions remains limited. Therefore, further studies are needed to explore the interactive relationship between creativity and innovation in enhancing organizational performance. Investigating faculty creativity could

offer new solutions to persistent problems in Iraq's educational system. Based on this background, this study seeks to fill that gap by examining the role of creative teaching and innovation practices in fostering organizational performance at Misan University.

The Challenges of Higher Education in Iraq

The ranking of higher education institutions in Iraq is impacted by the majority of Iraqi universities' unimpressive performance, despite the country's vast number of universities offering a wide range of disciplines. One possible explanation for this situation is the absence of an innovative and creative vision (Mukdad et al., 2014). It is also urgently necessary to retrain current professionals and enhance the abilities of leaders in Iraqi universities (Sawsan et al., 2016). Iraqi universities like many countries in the Arab world suffer in the current stage from low education quality, and most universities are still working within old traditional rules that do not fit with the advanced data of the principles and theories of modern education, whereas as innovation in the learning process is far from being implemented (Azzi, 2018). The absence of modern educational systems in public universities is one of the main problems that affect the educational outcome. To develop curricula and contribute to creativity among lecturers and students, there are much work has to be done. For the requirements of the modern development of education in the current era, and creating the academic climate based on innovation, there are several basic needs such as modern libraries, up-to-date documentation methods, new ways for explanation like projectors, scientific video films, scientific laboratories, and modern equipment and how to use and maintain them (Martina et al., 2021). As for Iraq, there have been no major developments compared to Turkey and Iran, so it has remained at the bottom of the list since 1990 until today and is not very different from most countries in the Middle East except for Iran, Turkey, Israel, Egypt and Saudi Arabia, as explains in Figure 1.

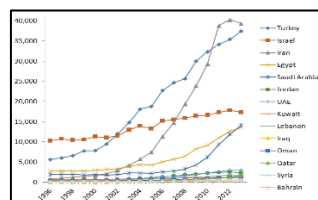


Figure 1. Middle Eastern higher education's expansion (UNESCO, 2015).

To raise the poor quality of education in higher education institutions, a large number of Iraqi academics, students, and professionals said they urgently need updated teaching and learning resources and techniques. Academics in Iraq are worried about the obstacle to

incorporating cutting-edge teaching strategies into the public university curriculum. This is because public universities are vulnerable to corruption due to bureaucratic routines, interference, and a lack of funding, which restricts their ability to establish an innovative and creative culture within Iraqi universities (The Guardian newspaper, 2018). Sutherland (2018) concluded that most Iraqi professors and students require significant investment to make the educational process innovative, and according to international norms, after conducting a brief interview with several Iraqi universities. The centralization of administrative decision-making is seen as one of the most significant distributed variables of resources and energy among the issues Iraqi institutions face. In addition to the absence of institutional teamwork, Iraqi academics are known for their individualistic work, particularly in scientific research, and the knowledge produced by Iraqi universities has a detrimental effect on the impact of individual effort (Al-Rubaiy, 2016). The situation at private universities is not much different, but they have shifted their focus from the educational process to commercial objectives, which will surely divert attention from their core goals of education, skill development, and sober scientific research (Al-Rubaiy, 2016). While earlier research showed that most Iraqi universities continue to use traditional leadership approaches, only a small number of Iraqi universities are concentrating on the substantial influence that transformational leadership has on academic achievement (Mukdad et al., 2014; Waham et al., 2020). To improve the organizational performance of higher education institutions, this study aims to increase the body of knowledge on the involvement of innovation techniques and employee creativity.

2. LITERATURE REVIEW

Organizational Performance

The word “performance” is often applied in the academic literature to refer to the results of a firm’s business behavior. One of the top company goals is to improve the performance of the organization. Due to its wide scope and its verbal expression, the concept of “organizational performance” has a variety of interpretations (Inta & Irina, 2017). In addition, organizational performance has been defined as how a company utilizes its resources to achieve its goals (Wheelen & Hunger, 2010). It is an organization's masterpiece. One of the key measures of organizational success is profitability (Qistina & Khashini, 2017). Organizational performance is a measure of an organization's ability to achieve results relative to a specific goal. Consequently, the firm needs to set some goal to attain it and its quality is evaluated “by the extent goal has been achieved” (Inta & Irina, 2017). The performance is central to strategic

management theory. The significance of performance in management can be seen from many of the prescriptions for improving it. In this context, Almatrooshi et al. (2016) suggested that the performance of an organization is associated with how all functions of an organization operate about its goals. But failure to use organizational resources effectively is likely to influence results and lead to business failure.” There may be many reasons for a failure in business, including the failure to plan for the long term failure to produce. There are also some personal factors that lead to business failure and poor performance, such as ineffective advertising/promotional strategy, technological innovation, managerial experience and development, a lack of generating an online business plan, product line experience, marketing understanding, and a poor performance of online store (Tsai, 2015). On the same dimension, Ahmed (2018) interprets organizational performance as a system of organizational performance that involves interaction with the external and internal environment. In light of such, the literature consistently underscores that there are multiple causes of business failure. Some factors happen naturally, while others are unique to a business. Some researchers argue that internal problems were the leading causes of business closure, and others argue that the external environment affected business closure (Lotfi & Pour, 2013; Wang et al., 2015). While Wang et al. (2015) suggested that the lack of a business plan could be perceived as a reason for business failure. Some argued that strategic planning can be inherently challenging (James, 2015), while others maintained that getting a good foot on the ground before developing a business plan is an essential step to its success. In terms of the HEI context, education quality can be used to measure the organizational performance of universities. It is required to increase the quality of education to enhance the organizational performance of the universities (Yeni et al., 2019). Instead, HR factor plays a significant role in organizational performance (Meléndez & Parker, 2019). Quality of education is a system of norms, methods, and decisions whose purpose is to develop the educational space. For there to be persons with this training within the various frameworks and forms of educational establishments, teaching and administrative staff, and as working conditions of employees in a direct or indirect relation to the educational system, the issue of the quality of education is dealt with in this section (Sabah, 2013).

Employee Creativity

Creativity and innovation in any organization are significant for effective operations (Anderson et al., 2014). Often the terms creativity and innovation are used interchangeably (Slåtten et al., 2020). Creativity flows as changing and dynamic thoughts; it varies from one employee to another. Employee creativity is, therefore, an individual resource or ability to be

creative. In contrast, individual creativity is regarded as the generation of original practical ideas, or problem solutions, from an individual employee (Slåtten et al., 2020). It may also be used for both the process and the product of thinking of ideas or solving problems (Amabile et al., 2005).

Creativity is a cognitive and mental process and not an easy (Al-Musawi, 2023). Creativity of employees has been researched through a wide range of professions (eg, engineers, managers, teachers, students), and it has been observed that creative people hold a specific set of personality characteristics in common. These people are confident, open to uncertainty, ambiguity tolerant, and intuitive (Çekmecelioğlu & Günsel, 2013). Personal innovation is the production and dissemination of new and potentially useful ideas. Employee creativity, accordingly, entails activities and individual cognitive states (e.g., creative thinking) and potentially associated activities like defining the problem to be solved, acquiring knowledge, generating ideas, and evaluating ideas (Slåtten et al., 2020).

Past studies of personal creativity focused on the personality and character of individuals (Batey & Furnham, 2006; Batey et al., 2010). Nearly four decades of research revealed that judging an individual's personality traits can not only predict the likelihood of the person being super-creative (Hughes, Goo, Im, Ku, & Jang, 2013). The ability to be creative in work is primarily predicted by openness to experience in new work domains (Batey et al., 2018); it manifests itself in the tendency toward curiosity, discovery, new ideas, and ideals (McCrae, 1987). Some other personality types have been found to predict creativity, although these relationships depend on the work context or domain of the organization (Batey et al., 2010; Furnham et al., 2011).

Burkšaitienė et al. (2017) studied the creativity of lecturers as a function of the use of social media in the process of teaching and learning. Education facilitated by the power of state-of-the-art tools and technologies has heightened the significance of creative sensibility and expression. Creativity is a complex domain that is under development. Lecturers engage in an ongoing process, on whose success creative personal attributes as well as creative support ultimately depend. 7 Social media use by lecturers as a cause of the teaching/learning process. The cause of the social media use in the teaching and learning process is the creativity of the lecturer, the determinant of which appears in intersubjectivity of environmental and personal characteristics (Burkšaitienė psl. 2017). Similarly, the research of Alshebami et al. (2022) investigated the effect of the creativity of the lecturers on the entrepreneurial intention of technical college students in Saudi Arabia. They urged the facilitation of more innovative teachers who can orient students towards essential entrepreneurial skills, knowledge, values,

and competences. Despite a varied range of knowledge, skills, and expertise involved, as creative teaching is complex, lecturers need to have creativity to motivate students to get them hooked, to learn, and to retain in the classroom. In service of that, creative lecturing can make learning exciting and authentic as it feels. The OLD stating that creativity is absent in lecturers has been criticized, but an extensive review of literature showed that there is a dearth of research on lecturers' creativity in Iraqi higher education. The effect of staff creativity at Iraqi universities. space An examination on the effect of staff creativity at Iraqi universities will provide an answer about what is the effect of creativity on promoting the performance of university, has effective increase personnel creativity, in addition to how members of stuff creative could allow them to improve higher education and learning outcome for the higher education.

Innovation Practices

Innovation is the introduction of new products or services, organizational processes in a technological manner, finding new products, companies, processes (OECD, 2018). Hence, any organization in quest for higher performance must adopt innovation. Ideas constitute the starting point of innovation and they wield considerable influence over the success or failure of an organization's innovation innovation performance (OECD, 2018). Organizational innovation is the innovation of new products or services, new technology processes, or improvements to current products or services (Fontana & Musa, 2017). The present global business practice acknowledges the overwhelming character of the benefits of innovation (Doan et al., 2022). In the higher education sector, the classical innovation types, still service and process innovation, are technology innovation (Obendhain & Johnson, 2004). Innovation is perceived and acknowledged as a competitive edge for the universities to attain sustainable development and offer higher quality education (Kong et al., 2022). Innovative universities can ensure that they take a lead through understanding the importance of the problem and predicting market trends and encouraging students effectively to study and increase the efficiency of lecturing (To'ychiyeva, 2022). To embrace innovation within the university space, it is necessary to consider the direction and speed of changes, to be constructive, flexible, agile, entrepreneurial, and creative (Etzkowitz et al., 2022). Organizational innovation has drawn the attention of scholars and practitioners. This was not surprising in view of the increasing demand for performance improvement in government, companies, and corporations (Al-Husseini, 2014; Paula et al., 2016; Sherine et al., 2019). In this context, organizational performance has been regarded as innovation-dependent (Chen et al., 2019).

At the national level, the focus is more on shaping public investments to support community growth and maintenance through influencing policy objectives (Liao et al., 2017; Granados-Colmenares et al., 2018). At the industry level, innovation is one of the elements of market development and competition (Maria et al., 2016).

Giving individuals a sense of purpose and challenging subordinates to come up with new ideas. (Hoshi et al. 2025)

Innovation has traditionally been applied only for products and procedures; however has been invoked in marketing and process-enhancement (Sherine et al., 2019). Therefore, a variety of innovations are being investigated including incremental to radical products, incremental to radical processes, and administrative innovations (Breunig et al., 2015). Nearly all of the previous research has focused on four types of innovation activities (product, process, technology, and marketing). Product innovations Innovation in products, which includes introducing new procedures and designs, and innovation in fabrics, semi-finished products, and influences that create new products, are all grouped as innovations in products (Sherine et al., 2019). Manufacturing process innovation representing new manufacturing processes, is categorized as a process innovation. Some organizational structures have their origin in process innovations that have been developed as a part of the firm (Komlos, 2016). Investigation in HEIs is undoubtedly a complex and multilevel context. Researchers explored some of the external and internal determinants of innovation, how university and college officials drive the process of innovation, and the extent to which innovation triggers changes in institutional behavior and educational outcomes (Aljawarneh, 2020). In other words, the details on attracting innovations to higher education, their management issues should be drawn out, as well as highlighting the innovation foundations of higher education institutions, specifying the areas of innovations in higher education and the scientific community, and assessing these institutions' innovation management characteristics (To'ychiyeva, 2022).

Hypothesis Development

Innovation practices and organizational performance

One of the major means of long-term competitive advantage for organizations is innovation in an ever-changing environment (Ploypailin & Pongsutti, 2020). Once workplace innovation happens, product and process improvements take place and workplaces continue to make the improvements contributing to firm survival, growth, making firms to progress faster, be more efficient, and finally to realise higher profit, higher levels of market performance (Murat et al., 2013). When organizations engage in innovation exercises to upgrade the skills

of workers and their ability to perform the work by the use of new methods and techniques, the performance of the organizations is improved at the end (Sania, 2021). Despite the abundance of evidence on innovation in organizations, some texts did not answer why some organizations still show resistance to the adoption of workplace innovation, and did not show great performance. In this regard, Gunday et al. (2011) also confirmed the impacts of innovation activities (process, product, marketing innovations) on different dimensions of the firm performance (innovative performance, production performance, market performance, financial performance). Moreover, Rasli et al (2017) validated the non-financial and financial outcomes of organizational innovation on organizational performance, and so did Mashal (2018) for the Iranian case. Therefore, organizational innovation and organizational performance are closely related. The implication of this relationship is that innovation practices have a direct and positive effect on organizational performance.

Based on these arguments and findings, the following hypothesis statement will be tested in Misan University:

Hypothesis 1: "Innovation practices have a significant effect on the organizational performance of Misan University"

Employee creativity and organizational performance

Based on preliminary findings from studies in the area of creativity, employee creativity is seen as an essential facilitator of a company's competitive advantage and development. Creativity in the workplace is described as producing new and useful ideas toward the improvement of organizational performance in many ways (Blake, 2019), and therefore, creativity is sought after by contemporary organizations as a result of its impact on employee performance (Joyner, 2017). He also defined organizational performance as a relative concept that seeks to enhance or optimize the quality of products and services and organizational performance. (Al-Musawi et al, 2022)

The capability to be innovative is essential for the continued existence of countless companies. The employee's innate thirst for creativity and receptiveness to new concepts is another driver for a more dynamic work environment. Which may affect the performance of the company (Sanjeet et al., 2021). Practitioners and researchers in many fields are anxious to understand how creativity contributes to organizational performance (Murphy, 2020). The competitive advantage is not just reliant on the employee's performance (Datta & Rijn, 2020) because employee performance alone may not always be sufficient to gain the competitive advantage. poor organizational performance is sometimes due to the non-existence of creative

employees (Miah & Hafit, 2020). On the other hand, employee creativity is considered a core element to extend the work and to assist the organization creatively to reach its goals (Elidemir et al., 2020). Given this discussion, it can be said that employee creativity positively towards the organizational performance in terms of long-term competitive advantage is valid.

Therefore, this study will test the following hypothesis statement will be tested in Misan University:

Hypothesis 2: “Employee creativity has a significant effect on the organizational performance of Misan University”.

Any change in the modes of employee creativity and innovation might affect the organization’s performance. This paper applies conceptual model, constructs such as employee creativity, innovation practices have been taken as independent variables and organizational performance as a dependent variable (see Figure-1). The rationale of the proposed framework and the relationship among its constructs will be tested using quantitative procedures.

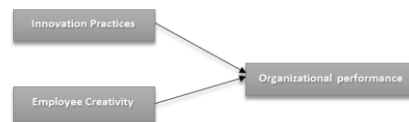


Figure 1. The conceptual framework of innovation and creativity in higher education.

3. RESEARCH METHODOLOGY

Quantitative method is to be applied in this study to examine the hypotheses by verifying the fit of the conceptual construct with the data and the appropriateness /probability of the model to be incorporated in the real world (Wong, 2014) while through qualitative approach using the qualitative method (Mhmood et al. 2024). Regressions analysis was used to determine the significance and power of relationships among employee creativity, innovation practices, and organizational performance. Survey process: We applied simple random sampling in our survey. The size of the sample consists of 500 lecturers at Misan University in Iraq, but 422 valid questionnaires were used for analysis.

4. RESULTS AND DISCUSSIONS

In this study, multiple linear regression is used to examine the effect of employee creativity and innovation practices towards organizational performance at Misan University. The evaluation of relationships is made through multiple and single linear regression analysis as shown in Table 1.

Table 1. Multiple regression model summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.672	0.411	0.405	0.45423
Predictors: Employee creativity, innovation practices			

The first evaluation of the output in the summary Table 1 describes how a multiple regression model can explain the variation between each independent variable (innovation activities and employee creativity) and the Misan University performance. While $R = 0.672$ indicates strong multicollinearity of the independent factors with the dependent factor. It is also observed that the value of $R^2 = 0.411$. These values represent the proportion of the total variation in organizational performance at Misan University that can be accounted for by innovation practices and employee creativity (lecturers). That is, the joint usefulness between innovation practices and employee creativity accounts for 41.10 per cent of the variance in the performance of Misan University. To investigate the meanings of these associations, unstandardized coefficients are again presented, indicating that each relationship is statistically significant ($p\text{-value} \leq 0.05$), and can be found in Table 2. Furthermore, simple linear regression was performed to assess the strength and direction, and the coefficients were standardized (Beta), of each relationship in the regression model.

Table 2: Summary of multiple linear regressions between the variables

Regression Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	0.610	0.233		3.114	0.000
	Innovation practices	0.480	0.042	0.560	2.411	0.000
	Employee creativity	0.549	0.063	0.662	4.844	0.000
a. Dependent Variable: Organizational performance						

The output data presented in Table 2 shows that the Hypothesis (H1) is accepted means that, the impact of innovation practices on organizational performance which is ($t = 3.354^*$ is significant at 0.05 ($p < 0.05$)) ($\text{Beta} = 0.4110$) and all these interpretation to say that innovation practices has a significance effect on organizational performance of In other words, there is a.4110 increase in organizational performance for every 1unit increase in innovation practices ($\text{Beta} = 0.4110$) there is significant effect ($P < 0.05$) and Hypothesis (H2) is accepted means that, the impact of employee creativity on organizational performance which is ($t = 3.841^*$ is significant at 0.05 ($p < 0.05$)) ($\text{Beta} = 0.4990^{**}$) and all these interpretation to say that employee creativity has a significance effect on organizational performance of Misan University. These findings are an indication that the attainment of competitive advantage is no more about the endowment of physical assets but rather the interaction of both physical and non-physical assets (Asiedu et al., 2020), creativity exhibited among the lecturers, and the adoption of innovation practices in the process of learning. Basing the contemporary university education on an

adaptive strategy guided by the orientation to collaboration, effectuation of creative teachers, and innovation is the guarantee for the higher education tight competition (Diaconu, 2017).

CONCLUSIONS

To achieve increased efficiency and effectiveness in the transition from modern to postmodern society, the university must transform its work towards more creativity and innovation. To identify the variables that affect organizational performance in the higher education domain, this paper proposes a framework for identifying patterns of academic creativity and innovation. The results revealed that both innovation practices and employee creativity have significant effects on the organizational performance of Misan University. This finding provides evidence that achieving superior performance in higher education is no longer based on the deployment of tangible assets like financial resources and the number of academic staff, but also on intangible assets such as creative lecturing and adopting innovation practices in the learning process. To that end, this study recommends that higher education institutions in Iraq should focus on recruiting creative lecturers who can improve the learning ability of students by using new ways of learning scientific subjects in parallel with an innovation strategy in all organizational functions and processes.

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