جامعة الموصل
كلية الإدارة والاقتصاد

إمكانية استخدام النظم الخبيرة في التدقيق الداخلي دراسة تطبيقية في ديوان محافظة نينوى

بحث دبلوم عالٍ
تدقيق ومراجعة حسابات

محمود برهان محمود

بإشراف
الأستاذ الدكتور
زياد هاشم السقا

١٤٤٧هـ ٢٠٢٦م

المستخلص

يهدف البحث إلى دراسة إمكانية استخدام النظم الخبيرة كأداة داعمة لوظيفة التدقيق الداخلي في ديوان محافظة نينوى، من خلال تحليل مستوى الجاهزية الرقابية والتقنية والبشرية، وتشخيص أبرز التحديات والمعوقات التي تواجه تطبيقها، وصولًا إلى تقديم مقترحات عملية لتعزيز كفاءة وفعالية التدقيق الداخلي باستخدام تقنيات الذكاء الاصطناعي.

اعتمد البحث المنهجين الاستنباطي والاستقرائي، وتم تصميم استمارة فحص شملت سبعة محاور تمثل متغيرات الجاهزية لتطبيق النظم الخبيرة، هي: البنية التحتية التقنية، الملاك البشري، المعرفة والخبرة التدقيقية، البيئة التنظيمية والإدارية، الخصوصية والأمن، الجدوى الاقتصادية، وجودة البيانات. جرى تحليل البيانات باستخدام برنامج (SPSS) بالاعتماد على التكرارات والنسب المئوية ومعامل اتفاق (Kappa) لقياس درجة التجانس بين الواقع الميداني والمتطلبات المعيارية للنظام الخبير.

أظهرت نتائج البحث أن الجاهزية الكلية لتبنّي النظم الخبيرة بلغت (٦٩٪) وفق استمارة الفحص، مقابل (٤٩٪) وفق تقديرات الموظفين، مما يشير إلى وجود فجوة إدراكية بين التنظيم الرسمي والتطبيق العملي، في حين بلغ متوسط معامل كابا (٠.٥١٦) بما يعكس مستوى جاهزية متوسط لإمكانية التطبيق. كما بيّنت النتائج أن محور الخصوصية والأمن كان الأعلى جاهزية بنسبة (١٠٠٪)، تليه المعرفة التدقيقية وجودة البيانات بنسبة (٨٠٪) لكل منهما، في حين سجلت الجدوى الاقتصادية أدنى نسبة جاهزية بلغت (٢٠٪)، وهو ما يبرز محدودية التمويل كأهم عائق أمام التطبيق.

وتشير النتائج إلى توفر قاعدة مناسبة لإطلاق مشروع تجريبي للنظم الخبيرة في الديوان، مع ضرورة تطوير البنية التقنية وتعزيز مهارات المدققين في التعامل مع تقنيات الذكاء الاصطناعي. كما خلص البحث إلى أن استخدام النظم الخبيرة يسهم في رفع كفاءة المدققين المبتدئين وتقليص زمن إنجاز المهام وتحسين جودة أدلة الإثبات واتساق التقارير. وأوصى البحث بتعزيز الوعي والتدريب على النظم الخبيرة، ودعم تبنّيها تشريعيًا وتنظيميًا، والاستفادة من التجارب الدولية بما يتلاءم مع البيئة العراقية.

Abstract

This research aims to study the feasibility of using expert systems as a tool to support the internal audit function in the Nineveh Governorate Office. This is achieved by analyzing the level of supervisory, technical, and human resource readiness, identifying the most prominent challenges and obstacles to their implementation, and ultimately offering practical proposals to enhance the efficiency and effectiveness of internal auditing using artificial intelligence techniques.

The research employed both deductive and inductive methodologies. A questionnaire was designed encompassing seven axes representing variables related to readiness for implementing expert systems: technical infrastructure, human resources, auditing knowledge and experience, organizational and administrative environment, privacy and security, economic feasibility, and data quality. Data were analyzed using SPSS software, relying on frequencies, percentages, and the Kappa coefficient of agreement to measure the degree of consistency between the field reality and the standard requirements of the expert system.

The research findings revealed that the overall readiness to adopt expert systems was 69% according to the assessment form, compared to 49% according to employee estimates. This indicates a perception gap between the formal framework and practical application. The average Kappa coefficient was 0.516, reflecting an average level of readiness for implementation. The results also showed that privacy and security had the highest readiness level at 100%, followed by auditing knowledge and data quality at 80% each. Economic feasibility had the lowest readiness level at 20%, highlighting limited funding as the most significant obstacle to implementation.

The findings indicate the availability of a suitable foundation for launching a pilot project for expert systems within the Audit Bureau. However, the research emphasizes the need to develop the technological infrastructure and enhance auditors' skills in using artificial intelligence technologies. Furthermore, the research concluded that using expert systems contributes to increasing the efficiency of junior auditors, reducing task completion time, and improving the quality of audit evidence and the consistency of reports. The research recommends enhancing awareness and training on expert systems, supporting their adoption legislatively and regulatoryly, and leveraging international experiences in a manner appropriate to the Iraqi context.

The Feasibility of Using Expert Systems in Internal Auditing: An Applied Study at the Nineveh Governorate Office

Name: Mahmood Burhan Mahmood Hamead, University of Mosul, College of Administration & Economics, Accounting Department.

Keywords:
Expert Systems, Internal Auditing, Nineveh Governorate Office

Abstract:

This research aims to study the feasibility of using expert systems as a tool to support the internal audit function in the Nineveh Governorate Office. This is achieved by analyzing the level of supervisory, technical, and human resource readiness, identifying the most prominent challenges and obstacles to their implementation, and ultimately offering practical proposals to enhance the efficiency and effectiveness of internal auditing using artificial intelligence techniques.

The research employed both deductive and inductive methodologies. A questionnaire was designed encompassing seven axes representing variables related to readiness for implementing expert systems: technical infrastructure, human resources, auditing knowledge and experience, organizational and administrative environment, privacy and security, economic feasibility, and data quality. Data were analyzed using SPSS software, relying on frequencies, percentages, and the Kappa coefficient of agreement to measure the degree of consistency between the field reality and the standard requirements of the expert system.

The research findings revealed that the overall readiness to adopt expert systems was 69% according to the assessment form, compared to 49% according to employee estimates. This indicates a perception gap between the formal framework and practical application. The average Kappa coefficient was 0.516, reflecting an average level of readiness for implementation. The results also showed that privacy and security had the highest readiness level at 100%, followed by auditing knowledge and data quality at 80% each. Economic feasibility had the lowest readiness level at 20%, highlighting limited funding as the most significant obstacle to implementation.

The findings indicate the availability of a suitable foundation for launching a pilot project for expert systems within the Audit Bureau. However, the research emphasizes the need to develop the technological infrastructure and enhance auditors' skills in using artificial intelligence technologies. Furthermore, the research concluded that using expert systems contributes to increasing the efficiency of junior auditors, reducing task completion time, and improving the quality of audit evidence and the consistency of reports. The research recommends enhancing awareness and training on expert systems, supporting their adoption legislatively and regulatoryly, and leveraging international experiences in a manner appropriate to the Iraqi context.

https://www.uomosul.edu.iq
https://uomosul.edu.iq/libcentral
mahmood.24bap37@student.uomosul.edu.iq

University of Mosul
College of Administration& Economics

The Feasibility of Using Expert Systems in Internal Auditing: An Applied Study at the Nineveh Governorate Office

High Diploma/ Research

In Accounting

Mahmood Burhan Mahmood

Supervised By

Prof. Dr.

Zeyad Hashem Al Saqa

1447 A.H 2026 A.D