

Methodology of Digital Transformation Practices of Accounting Firm

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Abstract: For accounting firms, digital auditing is an important task which helps them to examine financial data and ensure the accuracy of the data on the reports. However, which data analysis techniques should be adopted to improve the efficiency and accuracy of digital audit is an important issue. This study aims to explore the feasibility and practical applications of using data analytics techniques in digital auditing; These techniques can help auditors to systematically check, test and evaluate the accuracy, completeness, reliability and effectiveness of corporate information systems and data according to the systematic procedure. The DIKW model is a model that establishes a connection between knowledge and wisdom based on the framework of knowledge management, using the traditional concept of "data-information-knowledge-wisdom". This study will start from the theoretical level to explore the practical research of digital auditing combined with the DIKW model using data models, visualization analysis, machine learning, and related technical and practical problems. Effective solutions are proposed for each situation for future development. The implementation of this research is expected to help auditors choose appropriate data analysis techniques for digital auditing to ensure data accuracy and reliability.

Keywords: Digital Transformation, Digital Auditing, Data Analysis, Machine Learning.

1. INTRODUCTION

With the rapid development of Big Data and Artificial Intelligence technology, it will replace manual accounting and auditing work, reduce labor costs and improve work efficiency. With the extensive use of big data, accounting and auditing information can be more accurately obtained and analyzed, which can better meet the requirements of enterprises on accounting and auditing. In today's digital era, information technology has been widely used in many different industries, from technology to finance and so on. Advancements in IT technology will make computing and data analysis easier, allowing companies to perform accounting and auditing more quickly and accurately. As most of the work in the accounting and auditing industry can be replaced by computer technology. Second, the emergence of augmented AI technology will likely lead to the disappearance of the accounting and auditing industry. Augmented AI technology can simulate human reasoning and can be used to automate calculations and data analysis, thus saving labor costs. The emergence of augmented AI technology will allow for faster and more accurate accounting and auditing, thus significantly reducing the need for the accounting and auditing industry in enterprises (Ma, 2017). Therefore, the accounting and auditing industry will need to face new challenges and should enhance technology and innovation to counteract future competition.

In the digital economy, when Artificial Intelligence (AI) enters the economy and causes anxiety among human beings, every field in the world is facing the pressure of Digital Transformation. Accounting operations have undergone some significant changes in the past decades, from the era when enterprises used manual bookkeeping and auditors used manual work to check the accounts, to the era when enterprises use computers to keep the accounts, and adopt accounting packages. From the era of manual bookkeeping and manual checking by auditors to the era of

computerized bookkeeping, the adoption of accounting software packages, and the use of computers and computer-assisted auditing software by auditors to check the accounts (computerized auditing), enterprises have undergone some significant changes in the past decades.

However, with the changes in the business environment, the transaction data generated by enterprises are facing the 4V challenges, namely, Volume, Variety, Veracity, and Velocity. In addition, the external environment of each party is also presented in a digital way, such as: policies and procedures, financial regulations, contracts, and corporate internal control procedures. In the face of such a huge amount of data, it will not be possible to keep up with the times if computer-assisted audits (also known as computerized audits) are used only for financial statement audits, compliance audits, and operational audits. The reason is that computerized auditing has been in use for many years, and in enterprises with large transaction volumes, complex logic, multi-system integration of ERP systems, and a high reliance on digital databases, the use of computerized auditing services can lead to an improvement in the quality of the audit, as well as the detection and identification of possible risks, so that the limited auditing resources can be efficiently utilized (Huang, 2019). Nowadays, there are many pioneering accounting firms that are working on AI application projects, using AI to develop advanced tools to monitor behaviors and activities and analyze them in real time. It can also be developed from an early warning system to a precognition system, so that enterprises can prevent problems before they occur.

2. RELATE RESEARCH

A. The Current Status of Digital Audit Applications in Accounting Firms

In recent years, the Big Four accounting firms have planned multi-billion dollar budgets to actively invest in the application of emerging technologies, such as artificial intelligence and data analytics, in consulting and auditing services, and to strengthen staff training to fill the technology gap (Chawla, 2020). Currently, the four major accounting firms are mainly categorized into audit platforms, audit analysis tools, and other audit support tools, and their representative digital audit tools (Kuo, 2020).

B. Data Analytics Techniques Accountants Need

Data analytics is a systematic analytical technique that helps accountants and managers to understand and manage data more effectively, improve decision making and gain insights. It can be applied within the framework of the DIKW model (Data, Information, Knowledge, and Wisdom) to collect, process and analyze data effectively. For accountants, the Data Analytics Technology Framework can be used to collect data to provide more effective management decisions for accountants and managers. The framework provides an information system that can collect, process and analyze data to improve accounting and management decisions. The framework also provides tools and techniques that can be used to analyze data, such as simple descriptive statistics and more complex exploratory analyses, predictive analyses, causal analyses and other statistical techniques. In addition, the data analytics framework can be used to transform data into information to support accountants and managers to better understand the data. This helps to improve decision making in the organization as it provides more useful information. The data analytics technology architecture can also be used to convert information into knowledge to support accountants and managers in making more effective decisions. Such a technology framework can drive better organizational decisions and actions, and for accountants, it can provide more references and insights to improve decision-making. Finally, the data analytics technology framework can also be used to convert knowledge into intelligence to support more effective decision making by accountants and managers. This may require a comprehensive analysis of the long-term impact of decisions to gain more insight and better predictions for the future. A technical framework for data analytics can provide more references and insights to help accountants make more effective decisions. In conclusion, data analytics technology architecture can be used under the framework of DIKW model (Data, Information, Knowledge, and Wisdom) (Yusoff et al., 2017) to collect, process, and analyze the data efficiently and effectively, thus providing more effective management decisions for accountants and managers. The framework can collect, process and analyze data to improve accounting and management decisions and transform data and information into knowledge and wisdom to support accountants and managers to take more effective decisions.

The DIKW model (Data-Information-Knowledge- Wisdom), also known as the DIKW framework, is a model used to describe the relationship between data, information, knowledge and wisdom, the architecture is shown in Figure 1. It assumes that data is fundamental in a continuous information processing process, information and knowledge are

extensions of data, and wisdom is an extension of knowledge. Therefore, it identifies the relationship between data, information, knowledge and wisdom through a continuous process from data to wisdom (Frické, 2019).

- Data is the most fundamental layer, which represents raw data that is unprocessed and stored in a machine-readable form in a database, e.g.:product information, purchase amount etc. The value of data is limited, it can only provide us with some simple objective facts, but cannot be used to provide any useful conclusions or inferences.
- Information is the further processing of data into a form that can be analyzed and understood, usually presented graphically. It is organized and meaningful, and can be interpreted and understood in a certain context.
- Knowledge is generated through the further processing of information and is a cognitive structure of relationships between events, concepts, and entities. It aims to collect and integrate insights from data and information, and then reason and generalize the results to produce rules for more effective decision making, problem solving and efficiency.
- Wisdom is an extension of knowledge; it is the ability to transform knowledge into something that can be used to make predictions. It is the ability to think, analyze, and reason with new data to make effective decisions based on past rules. It is an extension of judgment that can be used to solve real problems and to come up with effective solutions.

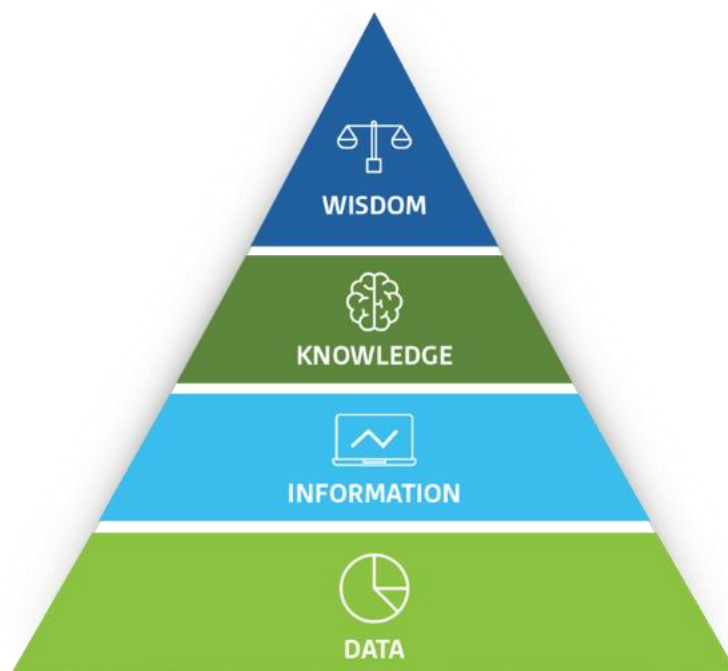


Figure 1. DIKW model (Rowley,2007)

3. RESEARCH METHODOLOGY

Auditing is a rigorous professional activity designed to examine and test a company's financial records and procedures to ensure the truthfulness and consistency of financial statements. In recent years, due to the increase in data and the development of data technology, the requirements for accounting and auditing have continued to increase. Data analytics, as an emerging artificial intelligence technology, has been successfully applied in different business and social applications, such as natural language processing, image recognition, and recommendation systems. With more and more researchers applying data analytics to the field of accounting and auditing, auditing is also beginning to experience the power of data analytics, which improves the time efficiency and accuracy of accounting and auditing.

According to the DIKW model, the important data analysis skills that accountants must master can be summarized as follows:

- (1) **Know your data** – Understanding and organizing data
- (2) **Draw the charts** – Identifying trends through charts and graphs
- (3) **Find business rules** – Modeling using machine learning
- (4) **Make predictions for future** – Machine learning can make predictions

Figure 2 shows the important skills required for accounting personnel corresponding to DIKW model.

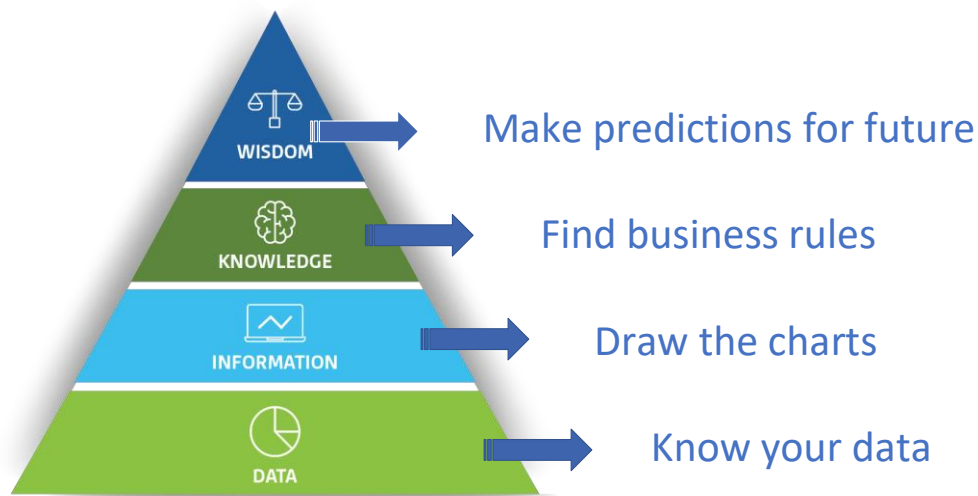


Figure 2. Important skills required for accounting personnel corresponding to DIKW model

A. Know your data

Accountants must have an in-depth understanding of database form associations and the entity-relationship model (ER model). Database form association is a technique that implements relationships between forms, including one-to-one, one-to-many, and many-to-many relationships. One-to-one relationship means that there is a unique relationship between two forms, such as a single value corresponding to two forms. One-to-many relationship means that there are multiple values between two tables, such as one table corresponds to multiple values and the other table corresponds to only one value. A many-to-many relationship means that there are multiple relationships between two tables, e.g., both tables correspond to multiple values. Entity-Association Model is a conceptual model used to represent the relationship between the database schema and the data. It helps you understand how the data in the database is related to each other and how to query the data in the database based on specified query criteria. It can be used to analyze the data in a database, and to define, check, and validate data relationships in a database. In addition, the entity association model can be used to perform deeper analysis of data relationships in the database to extract information more efficiently. Duplicates and errors are reduced and useful information can be extracted faster. Database table associations and entity association models are important skills for accountants to master because they effectively provide them with the ability to analyze data more efficiently, thus bringing more value to their work.

For example, if you want to analyze the "Sales Volume Analysis of Various Products by Salespersons", since the database contains several tables (Orders, Order Details, Categories, Customers, Employees, Products, Region, Shippers, Suppliers, etc.), you will be able to analyze the sales volume of various products by the salespersons in the database. The auditor first needs to find the appropriate table to table relationship, or can use data modeling software to know the relationship of each table, and then follow the relationship to link multiple tables to analyze the data. Figure 3 shows the relationship between the tables.

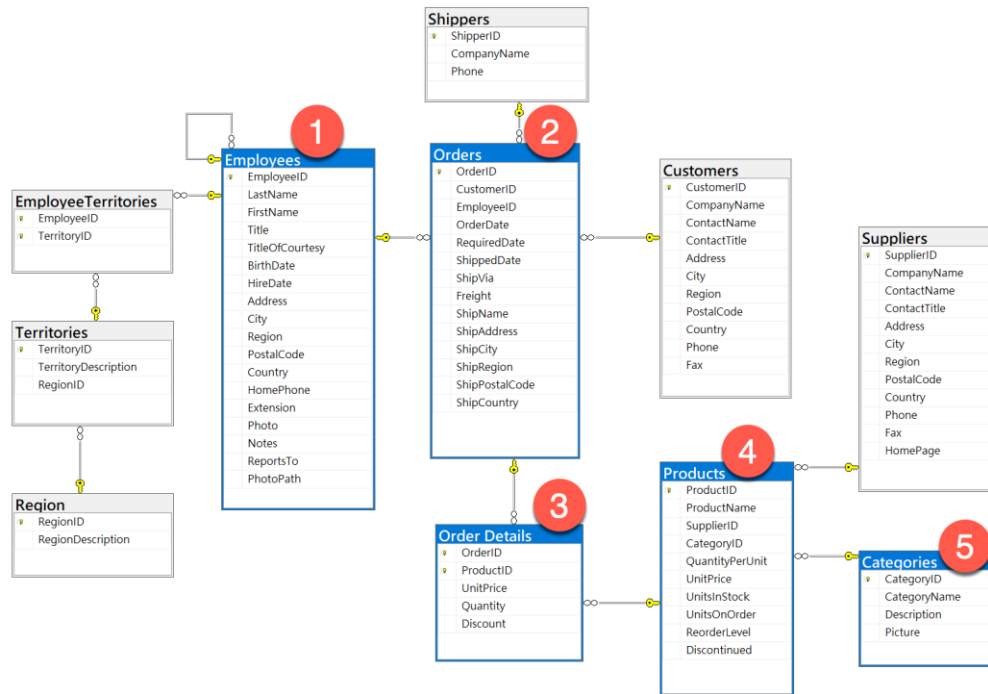


Figure 3. Table Relationship (Primary Key and Foreign Key)

B. Draw the Charts

In data analysis, graphs are an important tool to understand trends in data and their impact on the organization more quickly and easily. For auditors, the importance of charts and graphs is indispensable as they are required to perform in-depth analysis of financial statements and statistical data. Graphs and charts can be used to extract important trends and information in an audit analysis. They can present data more clearly and make it easier to see how data relates to each other. For example, for comparing revenues and expenses over time, a line graph or curve graph can be used to get a clearer picture of the trend between revenues and expenses. In addition, bar charts or histograms can be used to see the proportion of different types of expenditure or income. Through the use of graphs and charts, data can be analyzed more quickly and easily, relationships between data can be clearly understood, and important trends in data can be extracted. The importance of charts and graphs in audit analysis is indispensable as they allow for faster and easier analysis of data and their trends to improve the efficiency and effectiveness of the organization.

In audit analysis, graphs and charts often provide useful insights, assessment of possible problems, and judgment of emergency situations. For example, if a line graph shows a significant deviation between income and expenditure, then possible problems can be deduced. In addition, the charts can show more clearly the cost and benefit of the investment in the audit analysis, as well as the trend of the rate of return on investment. This information can be used to better understand the liquidity of assets and income and to make decisions about future investments.

Overall, charts and graphs are very important to auditors in analyzing data. They present information clearly, make it easier to analyze, and provide useful trend information for more in-depth analysis of the data. In addition to making it faster and easier to analyze the data, the use of charts and graphs also allows for a clearer presentation of the relationships between the data as well as the extraction of significant trends in the data, and provides a better understanding of the liquidity of assets and revenues as well as decision making on future investments. Therefore, the importance of graphs and charts is indispensable to auditors, and the identification of trends through graphs and charts is also very important for data analysis. Commonly used graphs are: line charts, bar charts, scatter charts, histograms, bubble charts, pie charts, box-and-whisker charts, stacked line charts, funnel charts, radar charts, hot spot charts, stacked bar charts, logarithmic linear charts, crosstabs, tree charts, and maps. Some sample charts are shown in Figure 4.

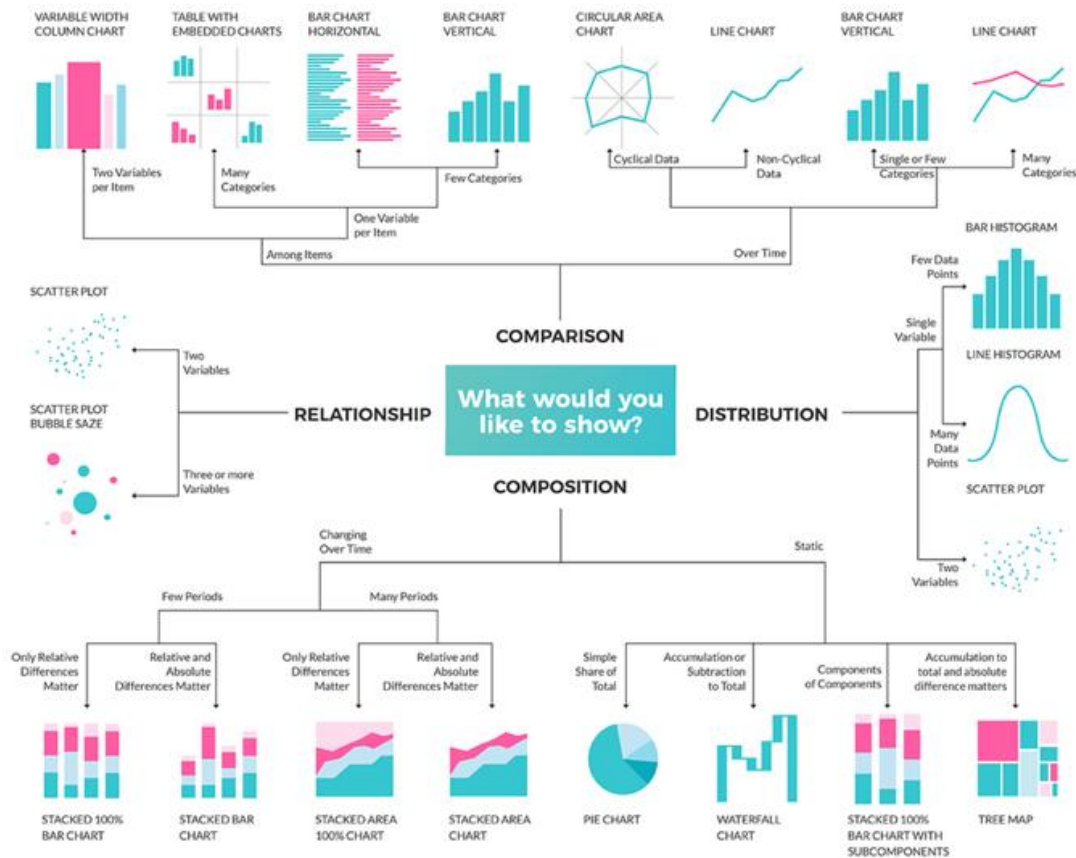


Figure 4. Commonly used visual analysis charts

(Microsoft, 2023, <https://learn.microsoft.com/zh-tw/training/educator-center/?source=mec>)

C. Find Business Rules

Machine Learning is a big data-based technology that automatically performs complex analyses to build models to find rules and significance. It can scan large amounts of data more efficiently and can extract more information from it. For auditors, the use of machine learning techniques can make the audit task faster and more efficient, especially for large organizations, which usually have to examine a large amount of data, and the use of machine learning can save a lot of time and effort. There are many different algorithms for machine learning, such as cluster analysis, classification trees, support vector machines, logical regression, etc., which can be used to detect anomalies and potential problems in the data, and can effectively analyze large amounts of data. For auditors, machine learning techniques can be used to analyze data more effectively and explore hidden rules and significance.

Machine learning can be used to detect anomalies and potential problems in data. For example, if there are unusual transactions in the data, then machine learning can detect them and provide a detailed analysis report so that auditors can better analyze and confirm the situation.

Machine learning can be used to find rules and significance in the data. For example, machine learning can analyze the financial data of a certain company and can explore the rules and significance in the data, which is very useful for auditors. Finally, machine learning can be used to discover risks and problems in the data. For example, machine learning can analyze the financial data of a certain company and discover the risks and problems in the data, such as whether there are false financial statements or fraudulent behaviors, etc. This is also very important for auditors.

Machine learning can accomplish audit tasks faster and more efficiently, especially for large corporations. The use of machine learning can scan a large amount of data more efficiently and extract more information from it, as well as find the rules and significance of the data effectively, and detect anomalies and potential problems in the data, which is very useful for auditors. Commonly used methods such as: Linear Regression, Multinomial Regression, Logistic

Regression, Support Vector Machine, Simple Bayes, K Nearest Neighbors, Decision Tree, Random Forest, K-Means, Neural Network-like, Association Rules, Social Network Analysis. Commonly used machine learning methods are shown in Figure 5.

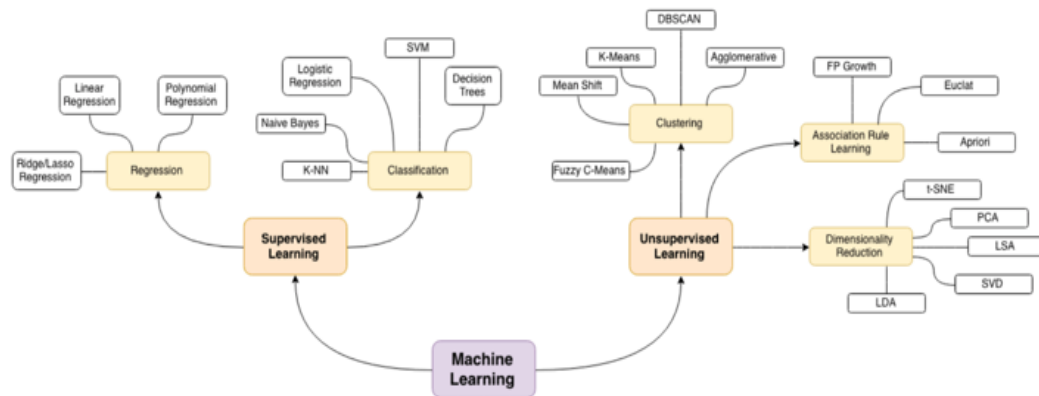


Figure 5. Commonly Used Machine Learning Methods

(<https://github.com/trekhleb/homemade-machine-learning>)

D. Make predictions for future

Machine Learning can help auditors to make predictions, mainly by building models to analyze the data and use the resulting models to make predictions. To use machine learning for forecasting accuracy, auditors need to prepare a large amount of data that will be used to train the machine learning model. For financial forecasting, the first step is to collect old financial statements and gather detailed information about financial indicators, such as revenue, profit, assets, liabilities, etc. The next step is to collect the data from the old financial statements, which will be used to train the machine learning model. Next, the collected data is divided into training set and test set. The training set will be used to train the machine learning model and the test set will be used to check the effectiveness of the model. Then, input the data into the machine learning model and start training the model. The goal of training the model is to improve its ability to predict new data. When the model converges, it is possible to start using test sets to test the correctness of the model. Finally, the auditor can use the results of the test set to evaluate the predictive power of the model. The performance of the model can be examined using the Confusion Matrix, which consists of four basic indicators: True Positive, False Positive, True Negative, and False Negative. True Positive, False Positive, True Negative and False Negative. True Positive refers to the number of samples that correctly predict the positive result. False Positive refers to the number of samples that were incorrectly predicted to have a positive result. True negative refers to the number of samples that correctly predicted a negative result, while false negative refers to the number of samples that incorrectly predicted a negative result. In addition to these four basic metrics, confusion matrices can also be used to calculate other performance metrics such as Accuracy, Recall, F1 Score, and so on.

Machine Learning is a technology that can be used to predict a wide range of events, improve the credibility of financial information, as well as detect internal control failures, fraud detection and anomaly analysis. To start making predictions, it is necessary to first collect enough training data, then perform feature extraction and selection algorithms, and finally evaluate the results using a confusion matrix.

4. TOOLS FOR IMPLEMENTATION

A. Programming (code) v.s. Non-Programming (no-code)

In recent years, with the rise of AI (Artificial Intelligence) and machine learning, program learning has become an unstoppable global wave. Apple's founder, Michael Jarvis, once said: "Everyone should learn computer programs because it teaches how to think. " But is this really a must-have skill nowadays? Even if you're not an engineer, you should learn code programming and no-code programming are two different development frameworks that can be used to create applications.

Programming is the use of a programming language to create an application. Programming is the use of a programming language to write code for a software system, while no-code design is the use of a visual editor to write

code for a software system. Programming is the use of a programming language to code a software system, while no-code design is the creation of software by using a visual editor. According to Gartner (2021), by 2024, more than 80% of systems will be built by "engineers who can't write programs" using no-code and low-code software. The market capitalization of the no-code industry will be \$13.8 billion in 2021, compared to \$3.5 billion in 2017. Both have their advantages and disadvantages, depending on the needs (Ozan,2021; Villegas-Ch et al., 2021).

Accountants must have good tools to complete data analysis. Below are some examples of using code and no-code tools for accountants to choose from.

B. Tools for Examples

1) Know your data

To understand what forms are in a company's database and how they relate to each other, it is important to have a good understanding of what is in a company's database.

Some examples using SQL command to query tables and relationships is shown in Figure 6.

■ code tools (SQL):

- Query all tables SQL command:

```
select TABLE_NAME from INFORMATION_SCHEMA.TABLES where table_type = 'BASE TABLE'
```
- Query what primary and foreign keys each table contains (table relationships) SQL command

```
select TABLE_NAME, CONSTRAINT_NAME, COLUMN_NAME From INFORMATION_SCHEMA.KEY_COLUMN_USAGE
```

Users still need to understand how they are related to each other.

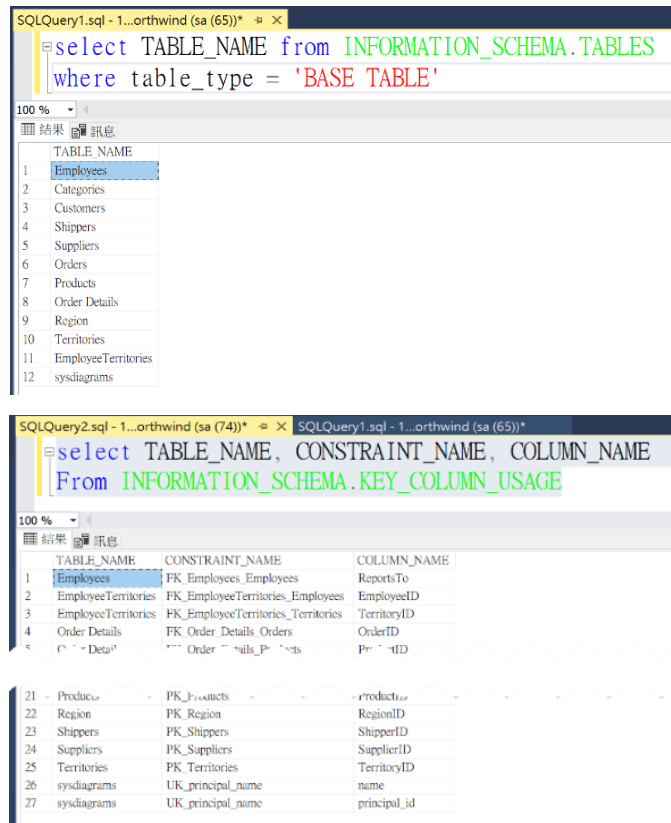


Figure 6. Using SQL Command to Query Tables and Relationships

■ No-code tools :

Through ERwin → tools → reverse engineer... You can get the database linkage diagram.

Using no-code Tools (ERWin) can obtain tables and relationships quickly; the result is shown in Figure 7.

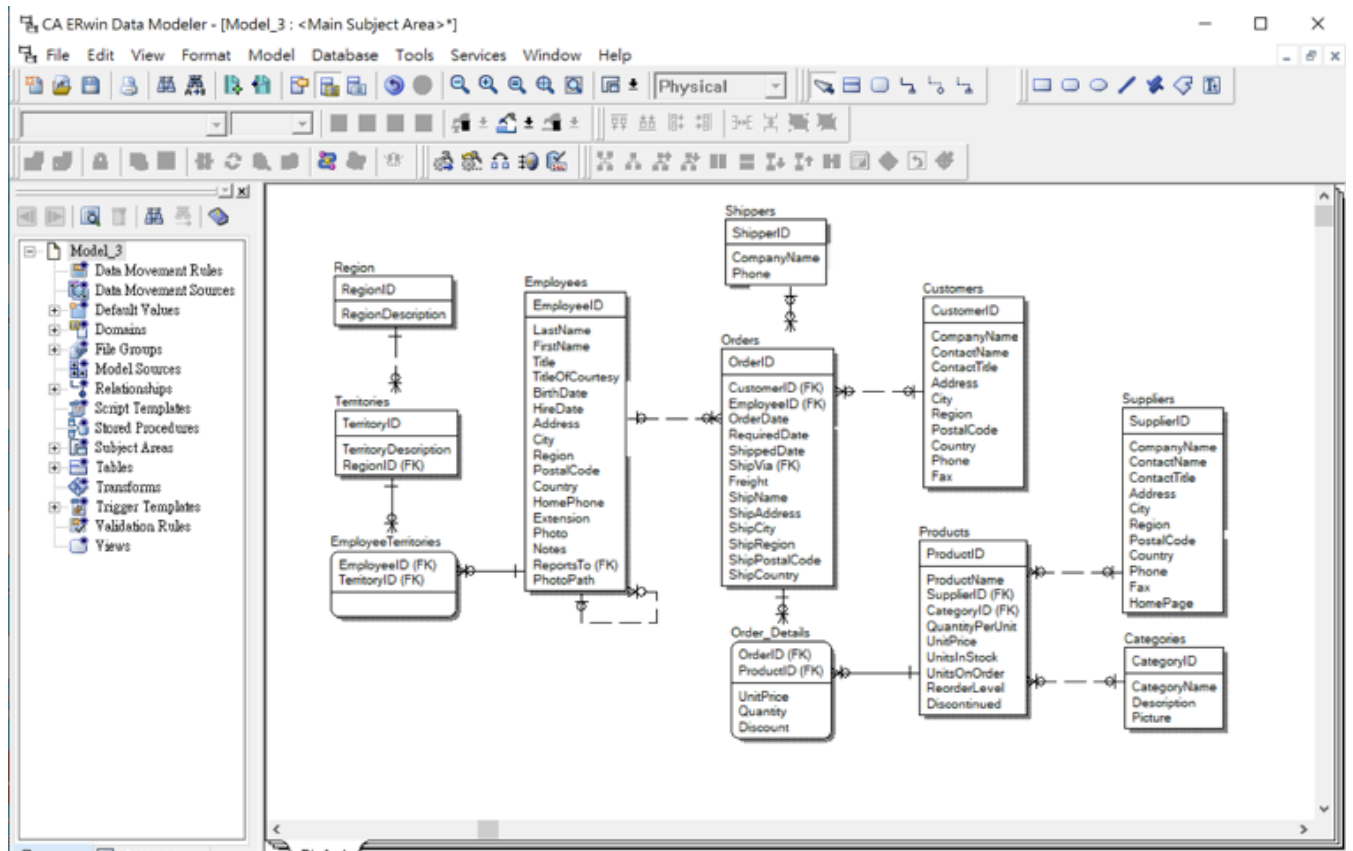


Figure 7. Using no-code Tools (ERWin) Obtain Tables and Relationships

2) Draw the Charts

Accountants can use visualization tools to present the results of data analysis in a way that is easy to understand. Visual analysis is an effective and interesting way to analyze an audit planner by seeing the different data structures and identifying useful information.

■ Code Tools (Python or R) :

- Step 1: Load the required modules: Before drawing the chart, we need to import the required modules first. If you want to draw a statistical chart, you can use matplotlib module; if you want to use Pandas, you can use Pandas module to read data and convert it to DataFrame format.
- Step 2: Read data: Use Pandas module to read the data set you need. You can use the read_csv() method of Pandas to read data from CSV file; you can also read data from other databases or APIs, such as SQLServer, MongoDB and so on.
- Step 3: Processing Data: You can sort, filter, fill nulls, etc. Pandas provides a series of methods to process the data, such as sort_values(), dropna(), fillna(), etc.
- Step 4: Draw Chart: Use matplotlib module to draw charts. matplotlib provides a series of charts, such as histograms, line charts, pie charts, and so on, which can be used to draw charts according to your needs. In addition, matplotlib also supports many other features, such as titles, legends, axes, lines, and so on. The Result is shown in Figure 8.

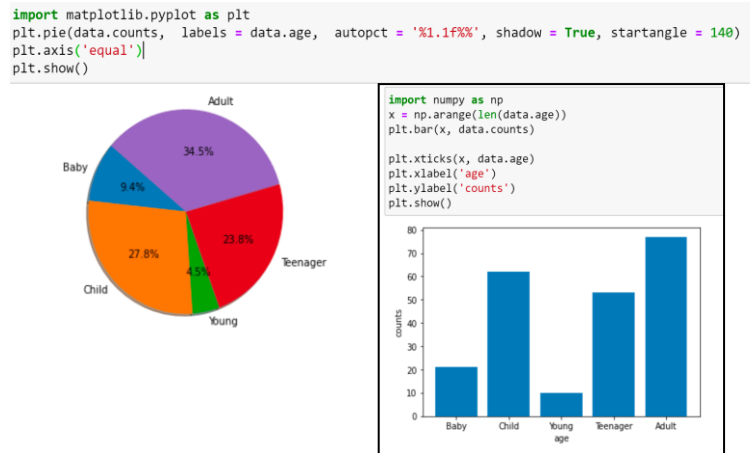


Figure 8. Using Code tools (Python) Draw the Chart

■ No-code tools (Tableau)

Tableau is a software that focuses on data visualization, which allows users to present data in an easy-to-understand way so that they can draw conclusions and make decisions more easily. In this article, we will introduce how to use Tableau to read data and draw diagrams.

- Step 1: Read data. You can read data from databases such as Excel, SQL Server, and Oracle. You can move your mouse pointer to the "Data" tab in the upper left corner and click the "Read Data" button to open the "Read Data" window to add databases or files to Tableau.
- Step 2: After adding data to Tableau, you will find that the table will appear on the right side of the columns, and the columns in the table will appear below the table, each column will have a column type marker, you can use the marker to determine the type of data in these columns.
- Step 3: Drag and drop the columns to the chart window, Tableau supports many kinds of charts, including bar charts, line charts, heatmaps, scatterplots and maps, etc. You can choose the most suitable chart type according to your needs.
- Step 4: You can set the visual effect of the chart according to the characteristics of the data. You can find "Color" and "Size" options in the "Settings" tab on the left side to set the color of the chart and adjust the labels of the chart. The result is shown in Figure 9.

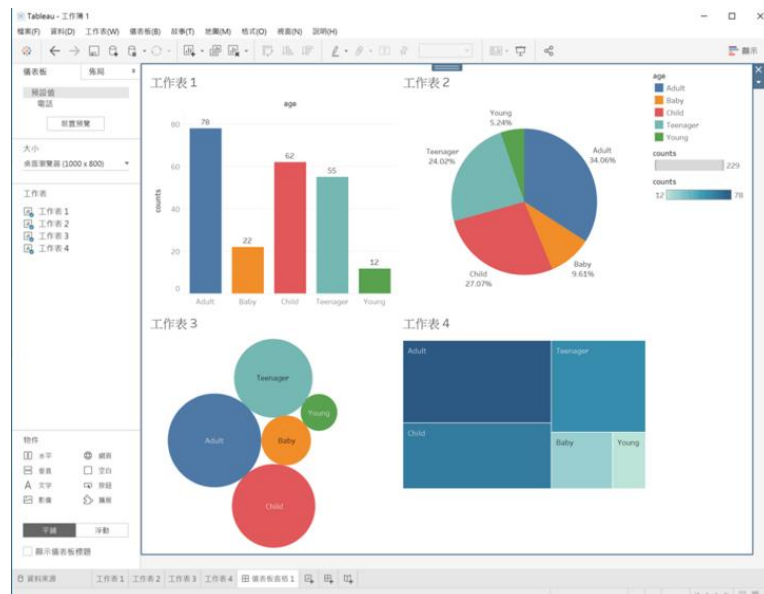


Figure 9. Using No-code Tools (Tableau) Draw the Chart

3) Find Business Rules

■ Code tools (Python or R) :

Take the decision tree method as an example, it can be programmed in Python or R.

- Step 1: Load the dataset to be analyzed, which can be in CSV, Excel, or other formats, and must contain the objective you want to predict and other relevant attributes.
- Step 2: Before analyzing the decision tree, you must clean your data, change the data type to avoid anomalies and other problems.
- Step 3: Use Python's scikit-learn library to build the decision tree. This library provides a series of APIs for creating decision trees, which allows you to configure and tune the decision tree model according to your needs.
- Step 4: Use the fit() method provided in the scikit-learn library to train the model. After training, you can evaluate the performance of the model to make sure it is performing well.
- Some sample codes and execute result is shown in Figure 10.

```
import numpy as np
import matplotlib.pyplot as plt # To visualize
import pandas as pd # To read data
from sklearn import tree
import pydotplus # To create our Decision Tree Graph
from IPython.display import Image # To Display a image of our graph

data = pd.read_csv('c:/Rdata/p6.4.csv') # Load data set
target = data['play']
target.columns = ['play']
features_dataframe = data.loc[:, data.columns != 'play']
features_dataframe = pd.get_dummies(features_dataframe)

dtree = tree.DecisionTreeClassifier(criterion = "entropy")
dtree = dtree.fit(features_dataframe, k)

dot_data = tree.export_graphviz(dtree, out_file = None, feature_names = features_dataframe.columns)
graph = pydotplus.graph_from_dot_data(dot_data)
Image(graph.create_png())
```

Figure 10. Using Code (python) Find Business Rules

■ no-code Tool (RapidMiner or Orange) :

- Step 1: Use Process Designer in RapidMiner to set up the modeling process and load this dataset into RapidMiner.
- Step 2: Use the "Model Building" step in RapidMiner to build the decision tree model.
 - a. Select Decision Tree Model: In the "Model Building" step, you will need to set the "Model Type" to "Decision Tree".
 - b. Select Parameters: You will need to select the model parameters based on the dataset to ensure that the model is valid.
 - c. Training the model: You will need to use the Training step to train the model to the dataset and generate the best model.

Using RapidMiner application to create model and generate the rules. The demonstration is shown in Figure 11.

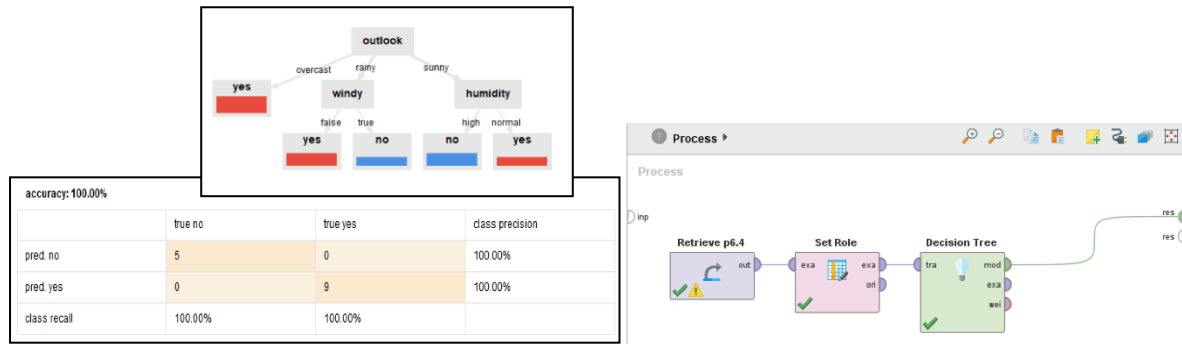


Figure 11. Using no-codeTools (RapidMiner) Find Business Rules

4. Make predictions for future

■ Code (Python or R) :

To continue with the machine learning training module for more advanced functions, you can use Python or R to write the program.

- Step 1: When the model is trained, you can use it to predict new data. scikit-learn library provides predict() method to predict the data, you can use this method to predict the model.
- Step 2: After the prediction is done, you can use various evaluation metrics to evaluate the performance of the model, such as precision, recall, F1 score, etc. In addition, you can also use the scikit-learn library to predict the new data. In addition, you can use the evaluation functions provided in the scikit-learn library to evaluate the model performance.
- Step 3: Optimize the model using various methods to achieve the best prediction performance. For example, you can try to adjust the depth of the tree, increase the number of classifiers, add regularization terms, and so on. In addition, you can also prune the tree to minimize the overfitting problem.

The user can use generate model and rules to predict the result for new data, as shown in Figure 12.

- 2. 使用所建立的模型 myModel 來預測某測試資料 myTest 當天氣(晴朗)、氣溫(熱)、濕度(高)、風(無)的情況下是否適合進行比賽，並將預測的結果儲存於 pred

```

[1] 1 test = data.frame(outlook='sunny', temp='hot', humidity='high', windy='false')
[ ] 1 pred <- predict(model, newdata=test, type="class")

[ ] 1 pred
1: no
  Levels:
    
```

The predicted result is 'unsuitable'.

Figure 12. Using Code (R) to predicte the data

■ no-code tools (RapidMiner) :

- Step 1: Use the "Model Evaluation" step in RapidMiner to evaluate the performance of the model. In this step, the following evaluations will be required:
 - a. Accuracy: This measures the model's ability to predict the target variable.
 - b. Accuracy: This will measure how accurately the model predicts the target variable.
 - c. Coverage: This will measure the coverage of the model's predictions.
 - d. Support: This measures the support of the model predictions.

- Step 2: Use the Model Visualization step to view the structure of the decision tree and confirm that the model is indeed valid.
- Step 3: Use the prediction tool in RapidMiner to make a prediction on the new data. In this step, you need to combine the model with the new data and predict the new data based on the rules of the model. After this step, the correct prediction result can be obtained.

Use the RapidMiner can easily to predict the result for new data, as shown in Figure 13.

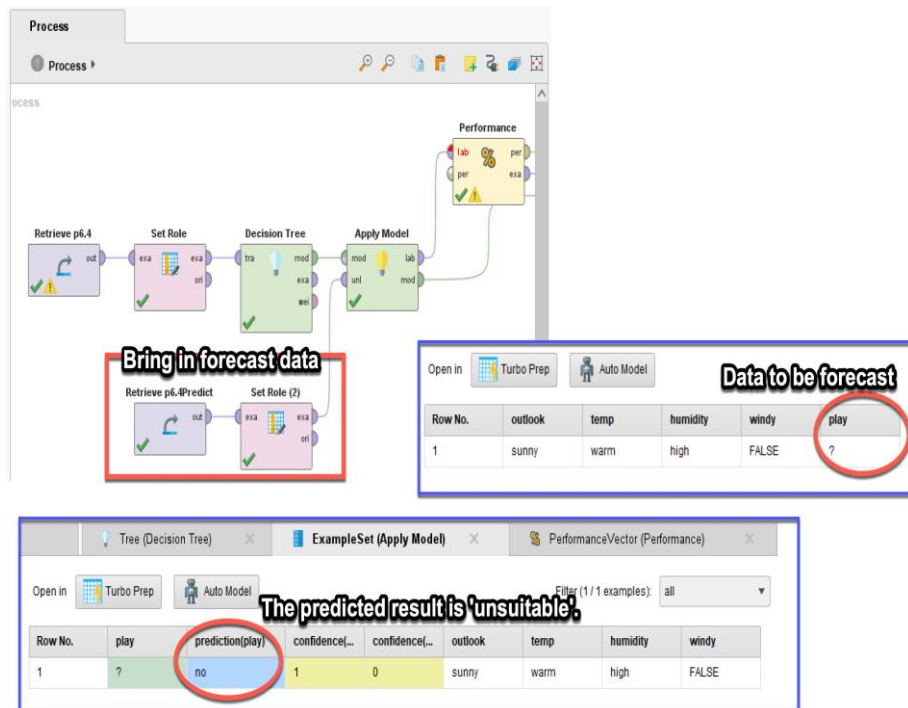


Figure 13. Using no-code Tool(RapidMiner) to Predicate Data

From the examples above, No-Code is a visual data analysis tool that allows users to analyze data through graphs and visual interfaces without having to write a single line of code. No-Code makes it easy for users to explore data, discover new insights, and quickly identify reliable conclusions. For firms, No-Code allows them to analyze data in a short period of time, gain better insights into business and trend changes, and make decisions faster. No-Code supports firms to better prepare for future market conditions and helps them to better utilize their limited resources to solve existing problems.

On the other hand, No-Code is a common data analysis tool that allows users to analyze and explore data while writing code, allowing them to analyze data and discover valuable information more efficiently and complete complex tasks in a very short period of time. For firms, using Code allows them to gain insight into data, better understand and analyze business and industry trends, and make faster decisions. code can help firms better understand their clients' needs, and also help them identify potential business opportunities for greater profitability.

In summary, No-Code and Code are two important tools to support and assist firms when analyzing data; No-Code brings valuable insights to firms and allows them to quickly identify reliable conclusions, while Code allows firms to dig deeper into the data to better understand and analyze business and industry trends. Either approach will help firms accomplish their tasks more effectively when analyzing data.

5. CONCLUSION

In modern accounting firms, the question of how to utilize the power of digital transformation to enhance their operational efficiency is a topic that is receiving increasing attention. With the ever-changing economic environment, accounting firms that can successfully implement digital transformation programs can not only enhance their existing accounting systems, but also improve their service standards to keep pace with emerging economic and technological developments.

Auditors will be able to process large amounts of data more quickly, which will in turn increase the efficiency of the audit process and save human, material and financial resources. For example, data for multiple clients can be effectively collected and stored in a database, and auditors can quickly use information tools (e.g., visualization tools, data mining tools) to conduct data analysis. In addition, firms can use intelligent technology to automate complex calculations and simplify the creation and reconciliation of accounting accounts, greatly reducing accountants' work time.

Digital transformation has significant impacts on auditing work, including improved efficiency, faster audit process, increased depth and breadth of audits, improved accuracy and reliability of audits, and improved continuity and security of audits. In auditing work, digital transformation technology will be more widely applied in the future, making auditing work faster, more efficient, more in-depth and more reliable, and providing more valuable support for business decisions.

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