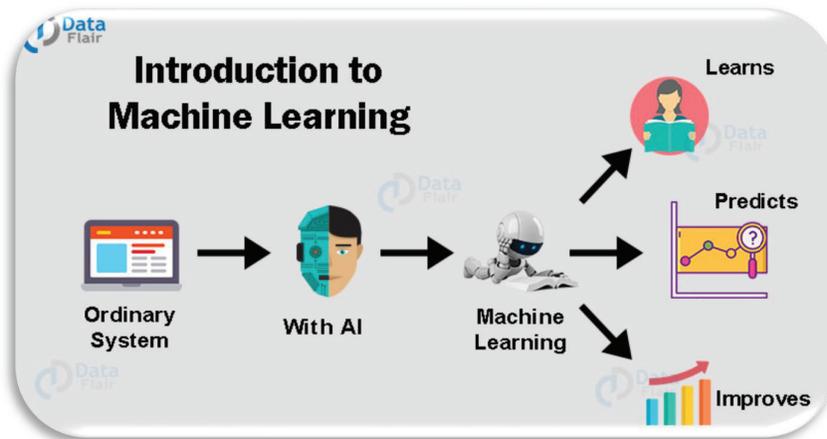# Machine Learning in Accounting: An Introduction

Wan Mardyatul Miza Wan Tahir
Jaizah Abdul Jabar

Machine Learning is an application of Artificial Intelligence (AI) in which computers use algorithms to learn and recognise patterns. Technically, it enables systems to learn from data without having to be programmed. Machine learning was eventually incorporated into our daily lives, such as on social media. Have you noticed that when you click on an article on Facebook on a specific subject, such as property, more suggestions for articles and advertisements regarding property and related subjects appear during your Facebook browsing? This is because the system uses data, such as user browser history, to try to anticipate what you might like. Hence, by looking at the connection of machine learning's on everyday life and business operations, specifically in accounting, undoubtedly it is expected the impact of that to be greater in the future than few years back.
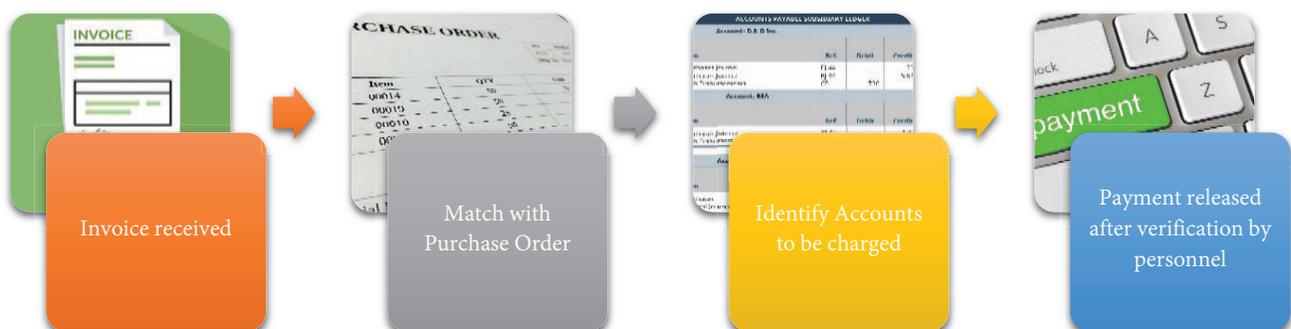

(Source: https://data-flair.training/blogs/machine-learning)

In this brief introduction, the discussion of the influence of machine learning on accounting will be divided into three areas of the accounting process which include (i) accounting, (ii) auditing and (iii) taxation.

Accounting

Machine learning algorithms can switch human tasks since technology takeover in business transactions, which transform from physical documents into digital copy. As such, accounting processes such as recording and reconciling hundreds of transactions of expenses and accounts payable are simply turned automated by using machine learning. The timing for repetitive jobs will be reduced and humans merely focus on complex tasks. The following figure shows an example described by Izhar Haq *et al.* (2020) of the process in account payable replace by machine learning:

Invoice received → Match with Purchase Order → Identify Accounts to be charged → Payment released after verification by personnel

Although part of this process sounds like robotic process automation (RPA), "the difference between RPA and machine learning is that RPA lacks any built-in intelligence, while machine learning's intelligence lies somewhere between RPA and AI" (Volkenburgh, 2021). For example, let say a supplier sends unfamiliar documents, RPA will not be able to recognise it since it's not accustomed with the document, while machine learning is able to learn from historical data and make predictions about the document.
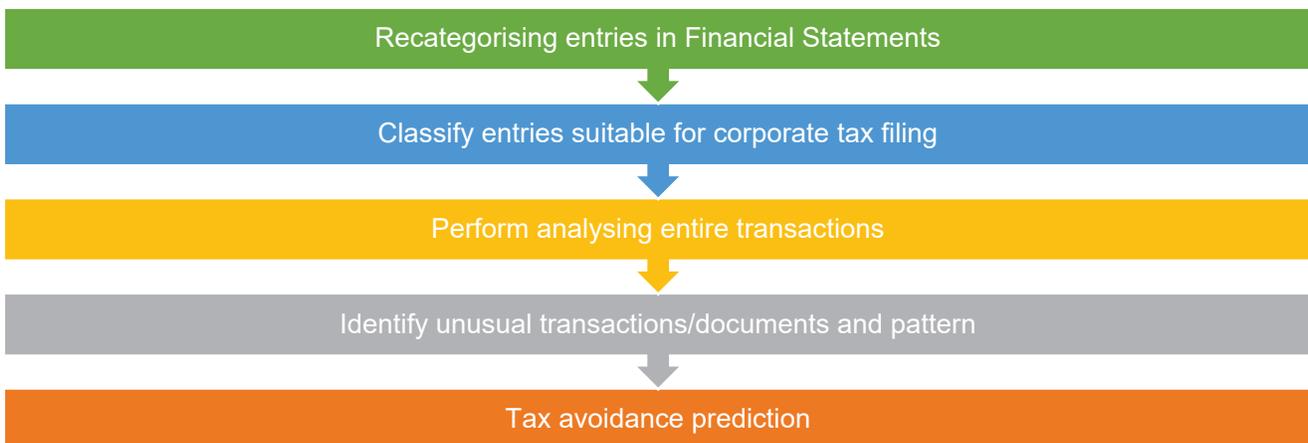
Auditing

By deploying machine learning the audit sampling will be the entire transaction as compared to traditional sampling techniques which is selected at random from the population. As such, it increases audit efficiency thus eliminating sampling risk. Application of machine learning in auditing process can be explained as follow:

Examining 100% of the transactions	→	Analyse for unusual transactions	→	Identify deviations/ variations	→	Pattern matching	→	Fraud prediction

Given that, the auditor can be formulising audit plan for further audit testing and gathering of audit evidence since the adoption of machine learning helps in identifying red flags where likely fraud is predicted. Consequently, this evolution allows auditor to focus on areas that require higher-level professional judgement (Dhoraisingam *et al.,* 2021).

Taxation

Machine learning is suitable for developing algorithms that are updated with changes in the tax laws and extracting relevant tax planning information from large volumes of data. Many benefits can be enjoyed by tax administration from this, for example reducing repetitive tasks such as classifying and extracting information, being able to adjust accordingly to changes in tax regulation, detecting abnormalities such as fake invoicing and being able to predict tax avoidance cases. Below is the example of machine learning in tax audit process:

Recategorising entries in Financial Statements

Classify entries suitable for corporate tax filing

Perform analysing entire transactions

Identify unusual transactions/documents and pattern

Tax avoidance prediction

Conclusion

The accounting profession needs to adapt with the evolution of technology such as machine learning and AI in order to cope with its effect on business nowadays. The use of machine learning in the accounting profession is not only able to save time but is able to produce significant information for accounting strategic knowledge work and value-added tasks.

References

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