



Identifying the Key Drivers Affecting the Use of Python Tools in the Accounting Profession

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Abstract

Purpose: This research was carried out with the aim of identifying the key drivers affecting the development of Python in the profession of accounting and financial reporting.

Method: The method of identifying the effective factors was identified through the study of previous literature and background as well as interviews with experts, then the key drivers were identified through the analysis of Mick Mac and the interpretive structural matrix.

Results: Based on the surveys, the factors affecting the development of Python in the accounting and financial reporting profession include; Providing practical training to the accountant, programming training, individual intelligence, ability to understand and analyze big data, information technology training, development of software and intelligent accounting systems, business competition of companies, increasing electronic commerce and technological advances.

Conclusion: The key drivers influencing the development of Python in the accounting and financial reporting profession are individual intelligence, business competition between companies, the rise of e-commerce, and technological advances.

Contribution: The knowledge increase of this research is in the application of information and data analyst programming software (Python) for the field of accounting in the age of information and communication.


Keywords: Python, Python in the Accounting Profession, Key Drivers.

Research Article

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Introduction

The special importance that is taking shape due to the technological advances caused by the development of information and communication technology and has emerged all over the world has caused the rapid technological developments to continuously become the basis for many changes at the micro and macro levels of the economy and this This requires that FAVA (information and communication technology) skills become one of the basic requirements of accounting graduates. Therefore, accountants and the current accounting profession must inevitably put themselves in the path of changes and include the changes in themselves. Therefore, the use of technological tools that can be used in accounting should be encouraged in accounting education and emphasis should be placed on the development of the learning process of such tools for accounting students. Information technology creates an information environment that facilitates operations in an integrated and flexible manner (Erlikowski 1991; 2; Arnold et al. 2, 2011; 172), and hence one of the essential and inevitable pillars of accounting information. It has become (Hyunen et al. 3, 2006; 145; Granlanted 4, 2011; 3). Organizations need information systems that fit their needs and organizational structure (Dastgir et al., 2011; 2). Meanwhile, many traditional tasks performed by accountants are increasingly automated (Frey and Osborne6, 2017; 254). Python is also used as a widely used programming language in various fields, including accounting and financial reporting. In these areas, the key drivers affecting the development of Python include things such as Python, having various libraries, can easily be connected to financial systems. Therefore, the main goal of the current research is to identify opportunities for the development of using Python and identify its drivers in achieving accounting goals and institutionalizing digital capabilities in the accounting profession.

Methodology

This study is considered developmental based on the methodological approach. The reason for this is the lack of necessary information for the application of Python in the field of accounting and financial reporting, which has caused this phenomenon to not have a unified framework in the context of accounting knowledge, and this study aims to cover this lack of content, following the development of the concept of Python in accounting affairs. and financial reporting. Another approach used in this study is the exploratory approach. Data collection is done through the study of theoretical literature, interviews with professional and academic experts, and questionnaires. The type of research based on the objective is classified as descriptive research. The approach of this study is of mixed data type (qualitative-quantitative) so that in the qualitative part, by using theme analysis, the factors affecting the development of Python in accounting were identified and through the study of theoretical literature, interviews with professional and academic experts and conducting questionnaires. Science deals with the discovery and presentation of the content

needed and in line with the research goals. Quantitative and statistical techniques have also been used in the quantitative part of the research. The statistical population of the research are professional experts and university professors who are experts and have professional experience in the field of accounting and financial reporting of companies and members of the accounting standards development committee. The technique of selecting experts for conducting research is done by judgmental and snowball sampling. The statistical population of this research are professional and academic experts in the field of information systems (IT), accounting and financial reporting.

Results

At this stage, first through reviewing the research literature and interviewing experts, 52 effective factors were identified using the theme analysis technique, and then through a questionnaire that was conducted using a Likert scale and based on the opinion of experts, the importance of each factor was determined. It was evaluated and measured. After collecting the data, at this stage, using the CVR index, the relative coefficient of the content of each factor was determined and 9 factors were identified. To verify these factors, the content relative coefficient (CVR index) was used.

Table (5): Identified factors for model design

Row	Agents
1	Providing practical training to accountants
2	Programming tutorials
3	Individual intelligence
4	Ability to understand and analyze big data
5	Information technology training
6	Development of intelligent accounting software and systems
7	Business competition of companies
8	Increasing e-commerce
9	Technological advances

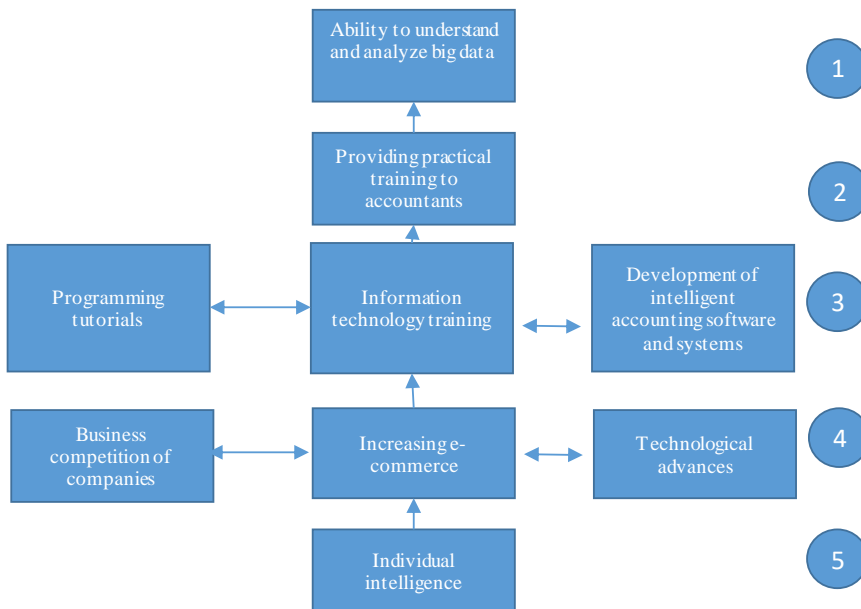


Figure (1): The final model of ISM

As shown in Figure 1, the 9 factors of the model are placed in five levels. Factor 4, which is on the first level of the ISM graph, is the most effective and dependent factor of the model. In the second level, factor 1 is placed, which affects the higher level factor and is affected by lower level factors. In the third level, factors 2, 5 and 6 are placed, which affect the factors of higher levels and are affected by the factors of lower levels. In the fourth level, factors 7, 8 and 9 are placed, which affect the factors of higher levels and are affected by the factor of lower level. At the last level (fifth level), factor 3 is placed, which is the most effective and influential factor of the model. To determine the coordinates of each factor in the MICMAC matrix, the power of penetration and the degree of dependence of that factor should be used. These values are obtained from the final access matrix. Table 12 shows the power of influence and the degree of dependence of each factor.

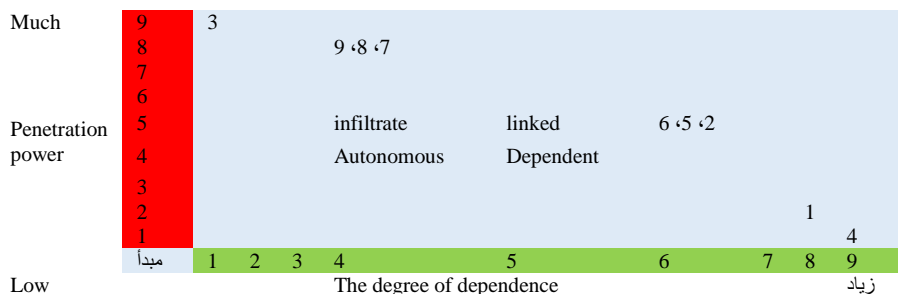


Figure (2): MICMAC matrix

As can be seen in the MICMAC matrix (Figure 2), factors 1 and 4 are located in the dependent area, which means that they have low penetration power, but they have high dependence compared to other factors. Factors 3, 7, 8, and 9 are in the zone of influence, which means they have high influence and low dependence on other factors. Factors 2, 5 and 6 are also located in the link area. These factors have relatively high influence and dependence. These factors play a key role in the model. Because they establish a relationship between independent and dependent factors.

Conclusion

With the expansion of e-commerce and the digitalization of business operations, the need for efficient programs in the field of accounting and financial reporting has increased. Python, as a powerful and widely used programming language, can be used in this field. Accountants and financial reporters need to be able to analyze and interpret financial information accurately and quickly. Practical Python tutorials for accountants and financial reporters help them improve the efficiency and accuracy of their financial reporting using Python tools. Due to the advancement of technology and the process of making accounting systems smarter, Python, as a widely used and powerful programming language, can be used in the development of intelligent accounting systems. Based on interpretive structural modeling and based on the opinions of experts, the key drivers affecting the development of Python in the accounting and financial reporting profession include providing practical training to accountants, programming training, individual intelligence, the ability to understand and analyze big data, technology training. Information was the development of software and intelligent accounting systems, the business competition of companies, the increase of electronic commerce and technological advances. In the presented interpretative structural model, the factors of providing practical training to accountants and the ability to understand and analyze big data have a low influence but a high degree of dependence on other factors. The factors of individual intelligence, business competition of companies, increase in e-commerce and technological advances have a high power of influence and a low degree of dependence compared to other factors. The factors of programming training, information technology training

and the development of software and intelligent accounting systems also have a relatively high level of influence and dependence.

Conflict of Interest

The authors of the article have completely avoided publication ethics, including plagiarism, misconduct, falsification of data, or double submission and publication, and there are no commercial interests in this regard.

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