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VALUATION METHODS OF CONTROL AND AUDIT RISK CONNECTED WITH THE COMPUTER SYSTEM USAGE

This article discusses and analyzes the issues that arise during the audit in companies with automated accounting. The main factors that affect on audit in automated accounting systems are the following: accounting automation level, control and audit, the availability of methodologies for automated auditing, degree of accounting data availability, the complexity of information processing.

It is noted that he risks of RT and RO (the risk of improper computer system test building, used by a client and the erroneous interpretation of these tests), to our mind, can take on a value lower than maximum (100%) in view of the following alternative conditions: first – for the computer system testing and the checking of the operations the independent specialist of the high qualification should be engaged (for example, the programmer who was engaged for quite a long time in the of the given software for other costumers). The understanding of the tasks that he faces and the methods of their solution in the way of programming presupposes the definite trust of auditor to the methods of the problematic fields discovery he uses in the computer accounting. And second - auditor is the specialist, in other words his algorithm knowledge and the principles of the work of a computer programmer used by a client is deep enough and interconnected with his professional knowledge in the field of audit.

Key words: *computer technologies, software, hardware, algorithms, computer system, audit, business accounting.*

Introduction

Present-day economical period is characterized by the computer technologies usage widening for accounting information handling and control. However the influence of the computer usage in business accounting on methodical system and audit work organization is scantily investigated problem that speaks of actuality and scantily exploring of a problem that is at the newest tendencies turn in practice and contemporary audit theory. Risk oriented audit with computer programming means usage is the most perspective tendency of given profession nowadays.

Target setting

The receiving and basing audit valuation risk control should be of longer and more careful character, exceed the limits of the audit scheduling stage and be realized on the first-hand business transaction testing stage. If enterprise keeps record predominantly in computer system (what in practice means the exceptional interconnection of two analyzing systems – internal control and computer control), so the examination methods with these systems and receiving of control and additional risks preliminary estimation, to our minds, might represent the one indissoluble process on the example of two zaporizya enterprises with the developed computer accounting system – CC“Expotrans” and PC “ Vitiaz”.

Results

The computer system characteristics examination, to our mind, ought to be started with the clarification of the questions connected with the risk factors connected with the technical aspects and the concrete computer system client exploitation (ER) – the main constituent of the additional risk [1]. This risk is connected with the technical aspects and concrete computer system exploitation we propose the following formula evaluation:

$$ER = K \times (DP + DP + \ldots + DP),$$

Where the positive answers to the questions corresponding test (see table 1) instantiated D, = 0, and to negative is weight estimating the influence ob i- question6 that is attached by auditor; K – special coefficient taking into consideration the failings of a composed text.

To our mind, the following questions must have minimal weight in the composed test:

1. The question of legality and wide adaptability of used software. The affirmative answer to the given question means the sufficient potential of the authors in the regular improving possibility for their programme, adaptation to the set accounting tasks, the change of some algorithms if appear some current legislation changes, error recovery [2, 3]. On the CC“Expotrans” since April 2002 the network software complex “Galaktika” is used and on the PC “Vitiaz” (since April 2005) – the “1C”

software is used, famous enterprise on the computer and account software marketing.

2. The question of the direct and efficient connection between the process of performing of economical operations and the process of reflection of these operations in business accounting. The positive answer to this question means not only the quick economical activity data delivery and entering it to the computer system but efficiency and continuity of their computer adaptation. The “Galaktika” complex is built on the base of modules (so-called contours), single database oriented and placed on a chosen for this purpose server. On CC “Expotrans” there are 17 automated work places, arranged according to contours in a following way:

‘Business accounting’ contour – 7 AWP; ‘records management’ contour – 5 AWP. ‘Production’ contour – 2 AWP (the actual expenses registration - economic planning);

Specialized work places for marketing service (1AWP), salary registration (1AWP) and for personnel department (1AWP).

Table 1

The computer system valuation characteristic test for selling and getting receipts cycle

Test Questions	CC “Expotrans”	PC “Vitiaz”	Question weight
1. Is the used software legal and widely intendedly used?	Yes (0)	Yes (0)	0,2
2. Is the software and hardware correspondence complete?	Yes*(0,2)	Yes (0)	0,05
3. Do the equipment hardware errors occur?	No (1)	Yes (0)	0,05
4. Does the constant software update takes place?	Yes*(0,2)	Yes (0,3)	0,15
5. Are there constantly present fables firm representative on the enterprise?	No (1)	No (1)	0,1
6. Is there the runtime software service?	Yes (0)	Yes (0)	0,1
7. Is there present the operating set made-to-order?	Yes (0)	Yes (0)	0,15
8. Are the processes of selling and getting receipts connected with the process of reflecting of these operations in the accounting?	Yes (0)	No (1)	0,2
TOTAL risk valuation РЭ (К=2)	0,19x2=0,38	0,345x2=0,69	

*Conditionally positive answers.

Consequently, then as an example the sale cycle passes all the stages in a given computer system. Warehouses AWP in a distribution department and AWP deputy sale accountant general connected into the single computer net.

In this case deputy accountant general, having the proper right of access to the whole base data can control effectively registrated on his own transferee and goods shipping, watching their transference from a warehouse. The account control with wholesale customer goes in with distribution department, the members of which have the picture of interaccounting with each buyer when address to the server.

Nevertheless, in this way the organized computer accounting even with the complete compatibility of the application software and hardware (question № 2 in the tab. 1) has that technical disadvantage. The programme can ‘hang-up’ if some users use the same subsection simultaneously – server sometimes can not manage with the concurrent requests. This disadvantage doesn’t mean a lot with constant accounting staff persistence. That is why with the small question weight in the test introduced in the tab.1 (it is equal 0,05), an insignificant additional rick increase, to our mind, contemplates the use of control of the described procedure realization method. The auditor’s valuation of the degree of the adequacy has the great meaning while question examination of the establishment of the reduced comparing with the high level of view of risk control.

A slightly different computer accounting organization was formed on the PC “Vitiaz”. The installed 1C-Commerce (independent program 1C – Accounting module adapted for the trade operations accounting) is not connected into the single net with the computers of the accountant general and sale accountant, with their AWP connected into such net with other computers of the accounts department and database dedicated server and on the warehouses of the enterprise the computer accounting is not provided. In that way, the accountant general, who registrates selling and the distribution department who sanction them deprived of the computer control possibility for the goods transference in the warehouses and the access to the analytical characteristics of the accomplished trades (quantity, price, shipped goods sum, VAT sum) of the first one happens while data examination on the monitor screen registered into the computer system by the sale accountant [5–7]. The manual entry of the machine-readable analogues by the last one, formed in the distribution department means the risk of the appearance of mistakes that can be traced only with the regular revises. The absence of these control procedures means the impossibility of establishment of the reduced risk control valuation in comparison with the highest level possible (100%) in the accounting segment. The additional (“computer”) risk considering the separated computer accounting conducting described by us in the book-keeping and the distribution department and the absence of it on the finished-products storage area increases comparing to the computer account in borders of the single

net for 40% (coefficient 2, multiplied on the question weight № 8 in the test, introduced in the tab. 1).

3. The question of the constant versions renewal of the used software. It is important due to the changes in the legislation that took place recently that change the business accounting order. The software renewal that is used in the PC "Vitiaz" occurred due to the contract with the "1C" regional representative. The algorithm renewal of the "Galaktika" software happened more quick because of particularized firm support that makes constant settings of the software according to the demands of a customer (see the test question № 7, introduced in the tab.1). However, the next version introduction that was running in for already a few months is late for the reason of the incompatibility of the software and the hardware.

The answers to the following questions (№№ 2 and 4 in the tab.1) for CC"Expotrans" still have the positive nature (0,2 instead of 0 – "yes" or 1 – "no") when increasing the additional risk valuation only by 8% but during the second audit the appearing problems can be of more global character. The corresponding additional risk valuation will increase by 40% in view of the negative answers that disputes the effectiveness of the given software use.

The special coefficient K application in the additional risk formula that is not smaller than 2, that is connected by us with the fact that the test questions, introduced in tab.1 are connected in many respects and the negative answers mean the disadvantages of the used computer system, the influence of which can have the cumulative negative effect. For, example, the absence of the fabless firm representatives on the enterprise (question № 5), called to make error recovery work in the software (question № 6), the adaptation of the algorithms accordingly to the customer's demands (question № 7) together with the tasks non-fulfillment by the technical – informational service of the enterprise increases the risk valuation up to 70%. If the renewal of the old software that is not able to solve the appearing accounting problems doesn't occur at all, the case in point is about 100% minimum additional risk, in other words about the high level of the effectiveness of the computer accounting on the enterprise.

It is obvious in view of the overwhelming quantity of the negative answers to the given test questions the calculated valuation of the risk exploitation can exceed 100% (or 1, 0). In this case, according to our plan, the additional risk valuation is the product of three risks:

$$DR = ER \times RT \times RO$$

Where ER – is the risk that is connected with technical aspects and concrete computer system exploitation with the client;

PT – the risk of the unproper test building by a computer system used by a costumer;

RO – the risk of erroneous understanding of these tests;

Can not be lower the maximum (100%) and establishes on this level. Such interpretation means enough level of testing correctness of a computer system while finding out its disadvantages. For example, ER = 1, 4 (the used software is bought illegally and wasn't set according to costumer's demands, considered to be unadapted to the resolution of the put accounting tasks in light of used erroneous algorithms, in other words the answers to the questions №№ 1, 4–7 of the test, introduced in tab.1 are negative), than

$$RT \times RO = DP/ER = 1 / 1,4 = 0,71.$$

Conclusion

In such a way the risks of RT and RO (the risk of improper computer system test building, used by a client and the erroneous interpretation of these tests), to our mind, can take on a value lower than maximum (100%) in view of the following alternative conditions:

1. For the computer system testing and the checking of the operations the independent specialist of the high qualification should be engaged (for example, the programmer who was engaged for quite a long time in the of the given software for other costumers). The understanding of the tasks that he faces and the methods of their solution in the way of programming presupposes the definite trust of auditor to the methods of the problematic fields discovery he uses in the computer accounting [8].

2. Auditor is the specialist, in other words his algorithm knowledge and the principles of the work of a computer programmer used by a client is deep enough and interconnected with his professional knowledge in the field of audit.

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Шмиголь Н.М. Методи оцінювання контрольних та аудиторських ризиків, пов'язаних з використанням комп'ютерних систем обліку

У статті розглянуто й проаналізовано проблеми, які виникають при проведенні аудиту на підприємствах з автоматизованим бухгалтерським обліком. Виявлено основні чинники, що впливають на проведення аудиту в умовах автоматизованих систем обліку: рівень автоматизації бухгалтерського обліку, контролю та аудиту; наявність методик проведення автоматизованого аудиту; ступінь доступності облікових даних; складність обробки інформації. Розглянуто позитивні та негативні тенденції аудиту в умовах різних автоматизованих систем на підприємствах міста Запоріжжя. Запропоновано систему тестування автоматизованої системи обліку при проведенні аудиту з метою виявлення можливих ризиків.

Ключові слова: *комп'ютерні технології, програмне забезпечення, апаратні засоби, алгоритми, комп'ютерна система, аудит, бухгалтерський облік.*

Шмиголь Н.М. Методы оценки контрольных и аудиторских рисков, связанных с использованием компьютерных систем учета

В статье рассматриваются и анализируются проблемы, возникающие при проведении аудита на предприятиях с автоматизированным бухгалтерським учетом. Выявляются основные факторы, влияющие на проведение аудита в условиях автоматизированных систем учета: уровень автоматизации бухгалтерского учета, контроля и аудита; наличие методик проведения автоматизированного аудита; степень доступности учетных данных; сложность обработки информации. Рассматриваются позитивные и негативные тенденции аудита в условиях различных автоматизированных систем на предприятиях города Запорожья. Предлагается система тестирования автоматизированной системы учета при проведении аудита с целью выявления возможных рисков.

Ключевые слова: *компьютерные технологии, программное обеспечение, аппаратные средства, алгоритмы, компьютерная система, аудит, бухгалтерский учет.*