PRINCIPLE OF USING SYSTEMIC APPROACH TO MANAGEMENT AUDIT IMPLEMENTATION BY SMALL AND MEDIUM-SIZED ENTERPRISES

Romana Píchová, Daniel Raušer

Abstract: In connection with their earlier contributions, addressing the issue of systemic approach to implementing management audit with regard to small and medium-sized enterprises, the authors intend to further pursue their effort and interest in this specific area of research with the following paper. Its main objectives are to introduce own comprehensive concept, which involves the use of a systemic approach and is expressed in the form of a specific model of “Systemic approach to management audit”, and to propose both standardized and purposeful procedures related to such audit. In order to develop the concept, a questionnaire survey was conducted among a number of managers of small and medium-sized enterprises in the Czech Republic, along with structured interviews with auditors carrying out management audits in their professional practice as well. Based on their research, the authors found that the examined enterprises tend to perform management audits only on rare occasions and without using any systemic approach or particular procedures. This is mainly due to an absence of time schedules or lists of individual activities that are required in the audits according to a precisely and previously specified order, as suggested in this paper.

Keywords: Small and Medium-sized Enterprises (SME), Management Audit, Systemic Approach, Objective of Management Audit, Implementation of Management Audit, Proposals and Measures, Feedback.

JEL Classification: M21, M14.

Introduction

Enterprises wanting to succeed in strong competition must draw particular attention to their internal stability and continuously analyse their internal environment. In order to do so, management audit implementation is instrumental for them. As Truneček (2004) and Nicholas (2014) remark, there are no clearly defined rules for such implementation, with the main dependence being on a manager’s/an auditor’s creativity and a manner the audit will be treated. However, to fulfil the main essence of an effective management audit and its implementation, a certain systemic approach must be followed.

1 Systemic approach to management audit implementation

According to Molnár et al. (2012), the concept of a system may be generally seen as a purpose-defined complex of elements as well as a complex of links between such elements that jointly determine certain characteristics of a unit, or an integrated set of mutually active elements intended to co-operatively fulfil a predetermined function. As Whittington and Pany (2015) and Leung et al. (2015) point out, the concept of a system related to auditing, i.e. a systemic audit implementation, may be defined as a logically structured procedure of individual steps/stages/phases/activities that are
necessary to follow during management audit in their precisely and previously defined order, since they are linked together. The table below indicates that several authors recommend dividing audit implementation into three to five separate phases.

**Tab. 1: Comparison of recommended phases within comprehensive audit process**

<table>
<thead>
<tr>
<th>Author</th>
<th>Number of Audit Phases</th>
<th>Audit Phases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dvořáček (2005)</td>
<td>5</td>
<td>audit objective, selecting audit techniques, gathering and analysing documents/information, drawing up conclusion(s) and audit report, post-audit</td>
</tr>
<tr>
<td>Králiček, Molin (2014)</td>
<td>3</td>
<td>developing an audit plan, actual performing of audit, audit completion and composing an audit report</td>
</tr>
<tr>
<td>Truneček (2004)</td>
<td>4</td>
<td>audit objective, audit implementation, audit evaluation, follow-up check</td>
</tr>
<tr>
<td>Cangemi, Sinfleton (2003)</td>
<td>3</td>
<td>planning process, auditing process – performance, reporting process</td>
</tr>
<tr>
<td>Crumbley (2004)</td>
<td>4</td>
<td>planning, field work, reporting, follow-up</td>
</tr>
<tr>
<td>Russell (2007)</td>
<td>5</td>
<td>identify plans, make observations, evaluate, report results, follow up</td>
</tr>
<tr>
<td>Moeller (2016)</td>
<td>4</td>
<td>plan: planning and enterprise, do: acquisition and implementation, check: control objective, act: monitoring and evaluation</td>
</tr>
<tr>
<td>Hale, Whitlam (2000)</td>
<td>4</td>
<td>planning, organization, data management, reporting results</td>
</tr>
</tbody>
</table>

*Source: Authors*

Furthermore, other authors, e.g. Spencer (2010), Wheelen, Hunger (2012) and Kotler, Keller (2016), suggest that management audit should be carried out in 4 phases, as also observed by Zepeda, Ochoa (2017) and Maksymov, Nelson and Kinney (2018) in their respective works.

Overall, the phases frequently selected appear to involve planning, implementation, completion and follow-up check. As for planning, the primary goal is to determine a management audit objective, i.e. what is the purpose for management audit to be performed. The primary goal of implementation should be to collect, analyse and evaluate gathered information, i.e. to evaluate the current state of enterprise management. Regarding the completion phase, the primary goal is seen in evaluating particular conclusion(s) from the conducted audit and preparing certain proposals and measures (in case there have been deficiencies identified in enterprise management). Lastly, the primary goal of follow-up check is to assess whether the audit was processed in accordance with its defined plan and whether the proposed measures were introduced by the given enterprise.
2 Methods

The paper’s objectives are to develop a comprehensive concept on how to possibly use a systemic approach to implementing management audit, with the concept being represented by a specific model of “Systemic approach to management audit”, and to suggest standardized and purposeful procedures concerning such audit. To meet the objectives, the authors decided to employ a method of experimental modelling, which is based on Molnár et al. (2012) and may also be used when creating management models. Additionally, particular data gathered from a questionnaire survey (among a number of existing Czech enterprises) and structured interviews with audit experts were also used to design the considered experimental model.

The questionnaires were created in written and electronic forms in order to ensure their potentially high level of return after approaching enterprises across the Czech Republic. To select the survey respondents, uniform stratified sampling was applied with the following principles: the basic set of 707 023 enterprises was divided into homogeneous groups according to their size and three categories were eventually generated: micro-enterprises (1-10 employees), small enterprises (11-50 employees), medium-sized enterprises (51-250 employees). Subsequently, 250 enterprises from each category were selected on the basis of simple random sampling, thus bringing the total of approached enterprises to 750. The rate of returned questionnaires amounted to 81.33 %, equalling to 610 as the total number of respondents, of which only 67 conduct management audits in their respective enterprises (specifically, 1 micro-enterprise, 33 small enterprises, 33 medium-sized enterprises). Due to the uneven division and low number of respondents in relation to the aforementioned categories, the authors continued to take account of n = 67 as the selected category of small and medium-sized enterprises.

When selecting experts for structured interviews, it was proceeded, as Hindls (2007) and Hendl (2016) recommend, to a multi-level deliberate selection consisting of three levels. The first level involved searching for experts (auditors and managers) who carry out not only financial, accounting or tax audits, but also audits in other areas. The second level was to establish certain conditions (i.e. 2 general conditions and 3 specific conditions) that the experts would have to meet in order for their views to be included in the research. The general conditions were: 6+ years of audit experience, processing audits in small and medium-sized enterprises. The specific conditions were: 8+ years of experience in management, knowledge of management methods, techniques and procedures used in enterprise management, knowledge of management and marketing analyses (e.g. SWOT analysis, IFE/EFE matrix, BCG matrix, GE matrix, STEP/EL analysis, 7S, Balanced Scorecard, etc.). In the third level, the process of selecting possible experts was subject to fulfilling both of the general conditions and one of the specific conditions. Eventually, 20 potential participants were contacted, with 16 of them promising their co-operation in the research. The conditions were met by 12 (out of 16) professionals with whom the co-operation was agreed.

Three hypotheses were constructed, all being on the grounds of an assumption that the approached managers or auditors do not use any systemic approach and standardized or purposeful procedures when conducting management audits. In view of the assumption, the hypotheses were set in the following manner – H1: When performing management audit, the use of a systemic approach by managers is
dependent on the size of enterprise. H2: When performing management audit, the use of a standardized procedure by managers is dependent on the size of enterprise. H3 – When performing management audit, the use of a purposeful procedure by managers is dependent on the size of enterprise.

3 Problem solving

To be able to possibly confirm the hypotheses, or the statements, their testing was performed in three stages. The first stage consisted in determining 1 general and 4 specific criteria and assigning them to each hypothesis statement.

A general criterion for confirming the first hypothesis statement (i.e. Using a systemic approach) regarded performing management audit in a minimum of 4 phases, including the specified audit contents. The specific criteria were laid down as follows: 1st Criterion – Phase 1: Audit Planning (Content: Defining audit objective); 2nd Criterion – Phase 2: Audit Implementation (Content: Audit processing); 3rd Criterion – Phase 3. Audit Completion (Content: Drawing up proposals and measures to improve management); 4th Criterion – Phase 4: Follow-Up Check (Content: Feedback).

A general criterion for confirming the second hypothesis statement (i.e. Using a standardized procedure) was related to determining a certain procedure for carrying out management audits, including the characteristics given in round brackets. The specific criteria were laid down as follows: 1st Criterion – Regularity of Audit (at least once a year); 2nd Criterion – Setting up a Time Schedule (for all activities that would be conducted during the audit, along with specifying their order and time span); 3rd Criterion – Compliance with the Time Schedule (observance of conducting all of the specified activities with respect to their order and time span); 4th Criterion – Setting a Time Frame (when performing the audit, the time frame must not exceed 6 months between Stage 1, i.e. Planning, and Stage 4, i.e. Follow-Up Check).

A general criterion for confirming the third hypothesis statement (i.e. Using a purposeful procedure) concerned determining a certain procedure for carrying out management audit, including the characteristics given in round brackets. The specific criteria were laid down as follows: 1st Criterion – Audit Objective (evaluating the current state of enterprise management); 2nd Criterion – Audit Program (defining the audit content and its expected fulfilment); 3rd Criterion – Establishing Audited Areas (audit must necessarily include the area of management or the area of managerial functions); 4th Criterion – Regular Auditing (at least once a year).

The second stage resided in assessing the specific criteria and assigning dependent variables (expressed in the range of 0 to 1) in order to use a data processing option in the “R” statistical program. A specific system of assigning the variables may be seen in Tab. 2.
**Tab. 2: Principle of assigning variables to evaluate dependence**

<table>
<thead>
<tr>
<th>System of Assigning Evaluation Variables</th>
<th>Evaluation Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fulfilling 4 specific criteria</td>
<td>1</td>
</tr>
<tr>
<td>Fulfilling 3 specific criteria</td>
<td>0.75</td>
</tr>
<tr>
<td>Fulfilling 2 specific criteria</td>
<td>0.5</td>
</tr>
<tr>
<td>Fulfilling 1 specific criterion</td>
<td>0.25</td>
</tr>
<tr>
<td>Not fulfilling any specific criteria</td>
<td>0</td>
</tr>
</tbody>
</table>

*Source: Authors*

For the above hypotheses to be evaluated, correlation analysis was applied to find out linear dependence between the aforementioned dependent variables and an average number of employees (i.e. the independent variables) based on defining a certain value of the Pearson correlation coefficient (r), as demonstrated in Fig. 1.

**Fig. 1: Pearson correlation coefficient**

\[ r = \frac{\sum_{i=1}^{n} (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^{n} (x_i - \bar{x})^2 \sum_{i=1}^{n} (y_i - \bar{y})^2}} \]

*Source: Authors*

The third stage encompassed an actual evaluation of the hypotheses on the basis of data processing in the “R” the statistical program, as shown in Tab. 3. Confirming or not confirming of the hypotheses may be achieved by calculating a p-value that identifies correlation significance of the variables selected. The p-value must be compared to a significance level – α, which was set at the most commonly used level of 5%. The above hypotheses can be confirmed provided that the resulting p-value is less or possibly equal to 0.05.

**Tab. 3: Evaluation of hypotheses**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Pearson correlation coefficient (r)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>interval &lt; -1;1&gt;</td>
<td>α = 5 %; (p-value ≤ 0.05)</td>
</tr>
<tr>
<td>H 1</td>
<td>r = -0.0389101</td>
<td>p-value = 0.7564</td>
</tr>
<tr>
<td>H 2</td>
<td>r = 0.08032592</td>
<td>p-value = 0.5214</td>
</tr>
<tr>
<td>H 3</td>
<td>r = 0.04833861</td>
<td>p-value = 0.6999</td>
</tr>
</tbody>
</table>

*Source: Authors*

Overall, the above recorded resulting values show that using a systemic approach and standardized or purposeful procedures is not dependent on the size of enterprises. As regards the resulting values of the Pearson correlation coefficient (r) for each evaluation, they point to very week dependence between the variables. In view of dependence related to using a systemic approach by managers in the management audit implementation (given the size of enterprise), the correlation coefficient revealed **indirect dependence**. Thus, using a systemic approach by managers in that respect **decreases** with the increasing number of employees. However, when considering
dependence related to using standardized and purposeful procedures by managers in the management audit implementation (given the size of enterprise), the correlation coefficient revealed direct dependence. Thus, using standardized and purposeful procedures by managers in that respect increases with the increasing number of employees. Then, on taking account of the resulting p-values for all 3 hypotheses, they are higher than the significance level of 0,05. As a result, it may not be claimed that the correlation of the determined variables is significant and therefore the hypotheses cannot be confirmed.

4 Research results and their discussion

The research also revealed that only less than half of the managers that perform management audits do so using systemic approaches and standardized or purposeful procedures. Based on this finding, the authors would like to present the managers (and the auditors concerned) with their own possible concept, which is illustrated in Fig. 2 as a specific model of “Systemic approach to management audit”. It should be noted that the model was also developed according to recommendations from various experts having several years’ experience in auditing.

As modified according to Štefko, Pichová, Gallo, Raušer (2016), the basis of the model is implementing management audit in 4 consecutive phases – planning, implementation, completion, follow-up check. Each phase was complemented with particular activities that are advised to be carried out during the audit.

![Fig. 2: Advised activities during management audit](Source: Authors)

Moreover, in terms of using the systemic approach, one “Key Activity”, which such audit must essentially contain, was picked out from each of the above phases and recorded in the following table, i.e. Tab. 4, along with the corresponding specifications.
In order to fulfill the main essence/content of the management “Audit Objective”, i.e. evaluating the current state of enterprise management system, managers or auditors need to be aware of all aspects that are to be analysed with regard to the audit. For the purpose of doing so, selected “Managerial Questions“ were formed, hence representing a vital step that should be taken in the first “Key Activity” (see Note 1 from the model of “Systemic approach to management audit”). The exact wording of “Managerial Questions“ is given in Tab. 5.

**Tab. 5: Managerial questions**

<table>
<thead>
<tr>
<th>Examined Questions</th>
<th>Factors Patterned on the 7S Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does the enterprise want to achieve and how does it want to achieve?</td>
<td>Strategy</td>
</tr>
<tr>
<td>What staff and composition are needed in the enterprise?</td>
<td>Staff</td>
</tr>
<tr>
<td>What abilities and skills does every employee need to have?</td>
<td>Skills</td>
</tr>
<tr>
<td>What will be the hierarchical structure of selected employees?</td>
<td>Structure</td>
</tr>
<tr>
<td>Which style of managing should be used in the enterprise?</td>
<td>Style</td>
</tr>
<tr>
<td>What systems are necessary to be used in the enterprise?</td>
<td>Systems</td>
</tr>
<tr>
<td>Are all employees well aware of the enterprise events and happenings?</td>
<td>Shared values</td>
</tr>
</tbody>
</table>

*Source: (Píchová, Raušer 2017b)*

Having evaluated answers to the “Managerial Questions“, one may proceed to an in-depth analysis of the above stated factors that significantly influence a success rate of enterprise management, internal stability and competitiveness. To carry out the analysis, the aforementioned “Management Model of Decision-Making“ had been
designed comprising three stages. Although each of them is made up of a separately developed model, the individual stages are mutually interlinked. The first stage is formed by the “7S Adaptation Model” being the primary element/the core of the entire management model. It may be argued that managers/auditors, or even small enterprises, not requiring detailed management auditing in their immediate environment, can only use this particular core. The second stage is constituted by the (already published) “Application IFE – 7S Matrix” (see Píchová, Raušer (2017a)), which is directly connected to the “7S Adaptation Model” and may be considered as the first extension sector of the entire management model. The third (The final) stage is represented by the (already published) “Resource Model” (see Píchová, Raušer (2017b)) that may be considered as the second extension sector of the entire management model. Of the three separate models, only the “Resource Model” is divided into two parts, where a comprehensive analysis of resources is the first part and an individual analysis of resources is the second part, with both parts being equally important.

It may be added that the first and the second stage principles of the “Management Model of Decision-Making” reside in analysing and evaluating of enterprise management system. The third stage principle is to analyse and evaluate used resources (in a given enterprise) as a unique set of inputs whose effective allocation managers should focus on. The model, depicted in Fig. 3, has been introduced to several managers and auditors, see Píchová, Raušer (2017a), Píchová, Raušer (2017b), Píchová (2018).

Fig. 3: Stages of Management model of decision-making

Application of the “Management Model of Decision-Making” and evaluation of results from the in-depth analysis are significant steps that should be taken as part of the second “Key Activity” (see Note 2 from the “Systemic approach to management audit” model).
Based on the evaluation of the entire management model’s output, the content of the third “Key Activity”, i.e. “Drawing up Proposals and Measures”, is to determine whether an enterprise is managed effectively or not. If deficiencies are identified, it is necessary to suggest certain measures that, after their application, would lead to an improvement in the state of enterprise management system. There should preferably be three to five measures suggested, including a proposal to select the best possible application measure. Here, managers/auditors themselves have to be able to put forward appropriate measures, assess them and select the most suitable ones.

After a certain period of time (between 1-2 and 6 months), managers/auditors should analyse how successful/effective the introduced measures were, which is the content of “Feedback” as the fourth (the last) “Key Activity”. The given enterprise management system is now being assessed in a simplified manner by evaluating answers to the “Managerial Questions” and answers to specific questions assigned to “Factors” in the aforementioned “7S Adaptation Model”. However, this is only applicable to those factors where the initial evaluation was unsatisfactory. Once the answers have been evaluated, it may be determined whether the enterprise management system has improved after applying the selected measures. If no desired improvement has occurred, managers/auditors must apply other measures and yet again re-evaluate the current state of the system within 6 months. Subsequently, the authors suggest that managers/auditors should repeat the whole process from its beginning and proceed accordingly until the state sought after, i.e. effective enterprise management, has been achieved. In connection with that, the completed model of “Systemic Approach to Management Audit”, illustrating a particular process to be possibly used in implementing management audit, is presented in Fig. 4.

**Fig. 4: Model of Systemic approach to management audit**

![Model of Systemic approach to management audit](image-url)
Finally, to be able to use standardized and purposeful procedures, it is recommended that managers and auditors follow these rules:

- Always clearly define the objective of management audit;
- Always clearly define the areas that should be analysed in management audit, with the area of management being considered as the essential area;
- Create at least a simple list of activities that are to be evaluated in management audit, preferably create a time schedule of activities, including a time frame, and always follow the time schedule;
- Compliance with the audit regularity – at least once a year;
- As for managers/auditors, audit processing should take them no longer than 6 months.

Conclusion

As stated in the introduction and also pointed out by Belás, Bartoš, Ključnikov, Kozubíková (2015), a particular basis for the competitive advantage of small and medium-sized enterprises is to create and maintain a quality business environment, especially the internal environment. This may also be achieved by its regular analysis, specifically through implementing management audit.

The research shows that the discussed management audit implementation has not been very “popular” so far among small and medium-sized enterprises in comparison with other audits, e.g. production, personnel or financial. Only 67 (out of the total of 610) respondents perform management audits in their enterprises, yet without using any systemic approach and standardized or purposeful procedures. Based on this finding, three hypotheses were established and evaluated to determine whether using of the previously mentioned approach and procedures is dependent on the size of the involved enterprises. On conducting the evaluation through correlation analysis, the hypotheses were not confirmed.

The paper’s objectives were to develop a comprehensive concept for using a systemic approach to implementing management audit, where the concept was comprehensively described and then illustrated in a model of “Systemic approach to management audit”, and also to propose standardized and purposeful procedures linked to such audit. The model was formed on the basis of particular data and information obtained from both the questionnaire survey and the structured interviews. The model’s essence is to draw the attention of managers/auditors to the fact that each (management) audit should have its objective defined, and sophisticated methodology and techniques should be used during its implementation. In case there have been any weaknesses identified, adequate proposals and measures should be formulated to improve the current state/given situation regarding enterprise management, and the follow-up check phase should not be omitted.

References


218


**Contact Address**

**Ing. Romana Píchová, DiS., PhD.**  
Institute of Technology and Business in České Budějovice, Faculty of Corporate Strategy  
Okružní, 517/10., 370 01, České Budějovice, Czech Republic  
Email: pichova@mail.vstecb.cz  
Phone number: +420387842159

**Mgr. Daniel Raušer**  
Institute of Technology and Business in České Budějovice, Faculty of Corporate Strategy  
Okružní, 517/10., 370 01, České Budějovice, Czech Republic  
Email: raudan@mail.vstecb.cz  
Phone number: +420380070201

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