THE IMPLEMENTATION OF ACTIVITY BASED COSTING IN INSURANCE COMPANIES

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ABSTRACT

Activity based costing is the most significant managerial accounting method in modern business conditions. Although this method was initially developed for manufacturing companies for the purpose of more accurate allocation of indirect manufacturing costs in order to determine the correct cost of a product, this method is widely and efficiently used in service companies. Activity based costing provides management with accurate and reliable information regarding costs for the purpose of decision making. The main assumption of activity based costing is that activities consume resources and cause costs and those activities are undertaken in order to produce products, provide services or satisfy consumers so costs must be allocated from activities to cost objects on the basis of appropriate cost drivers. Activity based costing is also applied in financial service sector especially in insurance companies. The main purpose of activity based costing application in insurance companies is to enable the appropriate information regarding costs in order to make a cost reduction and to improve profitability evaluation. In insurance companies, activity based costing is used to identify value added and non-value added activities and also to provide more accurate evaluation of product (insurance contracts) and customers' profitability evaluation. Insurance companies may implement various versions of activity based costing, but the most important and the most useful variant of activity based costing is time driven activity based costing. The purpose of this paper is to analyze the implications of activity based costing appliance in insurance companies and to present the potential model for activity based costing implementation in insurance companies. The research methods used in this paper is mainly oriented on the analysis of secondary sources with the application of induction and deduction methods and also the method of generalization.

1. INTRODUCTION

Activity based costing is method originally developed by Robert Kaplan and Robin Cooper in 1980s. The initial purpose of activity based costing was the more appropriate allocation of indirect manufacturing costs to products. Technology development and automation of manufacturing together with globalization and changes in consumers' preferences and needs have significantly changed the cost structure of manufacturing companies. The portion of direct costs has significantly reduced while the portion of indirect manufacturing costs has significantly increased. Traditional costing methods couldn't accurately allocated such increased indirect manufacturing costs to cost objects (products) so new method of cost

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allocation was needed in order to enable accurate and appropriate information regarding product cost and profitability. The change in cost structure caused the development of activity based costing. Since its introduction and implementation in many manufacturing companies, activity based costing have successfully fulfilled its primary goal – the more accurate and more objective allocation of indirect manufacturing costs to cost objects. Afterwards, activity based costing have been developing and adjusting for another purposes and became the most important cost management method directed to cost reduction achievement. Besides, activity based costing was originally designed for manufacturing companies, while today it is even more used in service companies especially in financial sector. In service and financial sector, activity based costing is used as a method for determination the value added and non-value added activities. Is primary task is to identify costly non value added activities and it is also used for the evaluation of product, service, and consumer profitability. The application of activity based costing became the standard cost management method in modern companies operating in turbulent globalized business environment. Activity based costing is also compatible with modern cost management techniques such as target costing, theory of constraint and life cycle costing and can be used together with modern performance measures such as economic value added, market value added and balance scorecard. This paper aims to present the model for implementation of activity based costing in insurance companies.

2. GENESIS DEVELOPMENT OF ACTIVITY BASED COSTING

Accounting literature usually recognizes four generation of activity based costing. Generations of activity based costing differ based on the methods used in certain generation and the purpose of activity based costing application. The first and the initial generation refers to the period from 1987 to 1991 [5] and this generation is represented by Kaplan and Cooper. The primary objective of the first generation activity based costing was to determine the accurate cost of a product in manufacturing companies in a situation when indirect costs were dominant with regard to direct costs and when company were produced differentiated products. The accent was on the usage a large number of different cost drivers which were not dependable on the production volume and which became the tool for planning and control of costs.[3] The first generation activity based costing was focused on the allocation of indirect manufacturing costs to products. In order to fulfill this objective, the first generation activity based costing required the identification of activities in a production part of a company and tracing and allocating indirect manufacturing costs to those activities. After that, indirect costs were allocated from activities to products based on early identified cost drivers. For every activity, the appropriate cost driver had been defined. Therefore, the main assumption of first generation activity based costing was following: “costs do not cause activities, activities cause costs”.[3] Early versions of activity based costing helped management see the profitability of products.[5] “This was because activity based costing (a) eliminated the product cross subsidies inherent in cost accounting; (b) revealed the sources of loss that were responsible for the decline in profitability; and (3) acted as a catalyst for decisions affecting profitability.”[5]

The second generation activity based costing (1995-2000) improves some limitations of the first generation and focuses attention on activities which become the object of continuous improvement.[3] After the introduction of the principles and methods of the first generation activity based costing, some authors have asserted limitations of activity based costing. The main critics was that activity based costing was inconsistent with the principles of continuous improvement, theory of constraint and total quality management, lacked costumer focus, was not process orientated, did not enhance organizational learning, was top dawn in approach and was not reliably measured the short-term impact of decisions on operating cost, inventory and throughput.[5] Although, the main intention of activity based costing wasn’t to provide guidance on process quality nor to measure short-term variable cost, the second generation activity based costing became the tool for activity based management. The purpose of this generation was to identify activity in the non-production part of a company (administration, sales, marketing, research and development, supply chain and logistics) and to determine and track cost of these activities in order to indicate which activities create the large costs. But, activities were narrowly defined and poorly connected. [3] In this phase of development, activity based costing expanded into insurance, healthcare, packaged goods, energy, banking and other industries.[5]

The third generation activity based costing (2000-2006) defines activities within a company much wider than previous generation and better connects those activities.[3] Basically, the third generation activity based costing identifies activities within the whole company and each cost links to certain activities. Therefore, third generation activity based costing enables information about cost of every identified activity. Beside, in this generation activities are classified on those which create new value for consumers (value added activities) and those which don’t create new value for consumers (non-value added activities). In this period companies are focused on cost reduction and rationalization, so the costs of non-value added activities are trying to avoid by outsourcing or reducing non-value added activities. Third generation activity based costing plays a significant role in cost management.

The fourth generation activity based costing refers to the period from 2006 to present. [5] In this period, activity based costing becomes an integral component of a new generation of business performance management solutions.[5] The fourth generation activity based costing characterizes the integration of activity based costing with new instruments directed to the increase in shareholders’ value such as economic value added, target costing, customer integration analysis, life-cycle costing and total quality management.[3] Activity based costing is now used in order to determine the economic value added of particular activity, to help the determination the target cost of particular activity, to determine the life-cycle cost of a product and to help in consumer profitability analysis and evaluation of product and process quality.

In recent years Kaplan and Anderson have introduced the enhanced version of activity based costing called time-driven activity based costing.[4] Time-driven activity based costing is based on time needed to perform particular activities. For every identified activity it is necessary to define time needed to perform this activity. This version of activity based costing is much simpler, precise and cheaper to implement than the origin activity based costing.[3] Besides, time-driven activity based costing enables the identification of unused capacity, which was one of the most common complaints regarding the original activity based costing. Precisely, time-driven activity based costing is applicable for service and therefore insurance companies as well.

3. MODEL FOR IMPLEMENTING ACTIVITY BASED COSTING IN INSURANCE COMPANIES

3.1. The Need for Implementation of Activity Based Costing in Insurance Companies

Insurance industry makes a significant part of the financial sector in many developed countries with developed capital markets. In developing countries (such as Croatia) banking sector is still dominant part of financial sector, but it is evident that insurance industry slightly is taking the more important role in financial sector. Insurance companies are facing with the same changing environment as manufacturing and other service companies. Globalizations, technology development, global competition, new competitors on market, changes in customers' preferences are the key factors that change rapidly and significantly business environment in which insurance companies operate. Insurance companies are also trying to maintain or to increase profitability and one of the most important ways to do that is to give a special attention on cost rationalization and cost reduction in every area of business. Activity based costing is a tool that can help managers in insurance companies to correctly identify and analyze costumer's and product's profitability and to obtain accurate and appropriate information regarding the activity costs. In insurance companies, activity based costing enables the identification and modification non-value added activities and the improvement of customer profitability.[2] Management of insurance companies is trying to increase profitability in two ways: (a) by focusing on products (insurance contracts) and costumers that are the most profitable based on activity based costing and (b) by outsourcing or modifying non-value added activities.

3.2. The Assumptions and Preconditions for Implementation of Activity Based Costing in Insurance Companies

Activity based costing gives management in insurance companies' information regarding the cost of particular activity and non-value added activity, the cost of particular product (insurance policy), the customer and channel profitability. In order to apply activity based costing in insurance company, three main factors must be defined: activities within a company, cost drivers for every identified activity and cost objects. The main assumption of activity based costing is that "cost objects consume activities and activities consume resources. Resource costs are assigned to activities based on their use of those resources and activity costs are reassigned to cost objects based on the cost objects' proportional use of those activities."[1] Cost objects are usually insurance products (insurance contract or policy), customer or channel. Activities should be defined in every area of an insurance company from the corporate level to the profit centers or operational level. Insurance companies are usually divided in two areas: (1) "corporate area with functions like finance or actuarial and (2) field operations with functions like regional, district or branch profit, underwriting and claims or service center". [1] "Activities can be defined at the macro level (such as direct premium payment) or at a more detailed level (such as payment at an agent's office, recognizing that costs will vary by product and by delivery channel as well as geographically)."[1] Activity based costing enables insurance companies understand how their infrastructure resources are consumed by activities and how products, customers and channels consume those activities.[1] Every cost that occurs in insurance company, must de assign to appropriate activity that have caused its occurrence. Then costs must be reassigned from activities to cost objects (insurance contracts and policies, customers, delivery channels) based on identified cost drivers. Since insurance companies are service companies, the most applicable cost driver is labor hours or time to perform certain activity. Therefore, time-driven activity based costing, a variant of activity based costing recently developed by Kaplan and Anderson [4], is appropriate for insurance companies. This variant of activity based costing identifies time which is needed to perform certain activity and that time is the common cost driver for every activity.

According to recent research, "the successful implementation of activity based costing within a service companies (and therefore insurance companies as well) is a function of the followings: (1) the impetus of the change must come from within the organization, (2) the adoption of activity based costing must first be bought by operating manager before it is sold to top management, (3) all employees must be made to embrace activity based costing and be held accountable, (4) effective sponsorship and how to rationale for activity based costing adoption is communicated to employees must be given a high priority".[2]

3.3. The Process of Activity Based Costing Implementation in Insurance Companies

The implementation of activity based costing in service companies (and insurance companies as well) is usually carried out through the following phases: (1) "form a cross-functional team, (2) identify cost objects (items for which there was a need for cost information), (3) identify activities (homogenous groups of work), (4) identify cost drivers (the agents that cause costs to be incurred in the activities), (5) attribute activity cost to cost objects and (6) use the information."[2] The most critical tasks in implementation of activity based costing in insurance companies are identification of activities and specifying and assigning costs to activities. In insurance companies activities can be divided on prior activities (those activities that precede the making of product) and consequential activities (activities that follow after the product is made). Prior activities include market research, product creation (insurance contract or policy) which include coverage, premium, conditions, provisions and work technology, printing price lists, brochures, forms and education of sales channels. Consequential activities can be divided on primary and secondary activities. Primary activities refer to cost of making of insurance policy and distribution (agent provisions). Secondary activities are claim inception, claim estimation, processing claims, claim settlement and legal actions. For every identified activity, cost driver should be determined. Potential cost driver according to the above mentioned activity are presented in the following table:

Table 1.

Potential cost drivers for activities in insurance company

Activity	Potential Cost Driver
Market research and product creation	**Labor hours**
Material printing	**Number of printings**
Education of sales channels	**Education hours**
Policy making	**Number of orders, labor hours**
Distribution	**Number of insurance policies sold**
Claim inception and estimation	**Labor hours or number of claims**
Processing claims and claims settlement	**Labor hours or number of claims**
Legal actions	**Labor hours**

Every cost incurred must be assigned to activity which has caused its occurrence and then reassign from activity to cost objects (insurance contracts or policies, customers or channels) based on defined cost drivers.

3.4. Setting up a Model for Activity Based Costing Implementation in Insurance Companies

Model for implementation of activity based costing is presented on the basis of one department in insurance companies that carries out two major activities: processing applications and handling claims.[1] Model is defined according to the analysis of secondary sources.[1] For the purpose of activity based costing implementation, it is necessary to identify activities within every department or responsibility center in insurance company. Costs occur at the level of department should be assigned to certain activity within that department and then reassigned to cost object (insurance contract or policy, customer or channel) based on identified cost driver. At the department level, there are costs that can be directly assigned to certain activity and costs that need to be allocated to several activities. The allocation of departmental costs to activity is based on labor time needed to perform certain activity. After the department costs have been assigned to activities, in the next stage costs need to be reassigned from activities to cost object on the basis of the number of applications processed and claims handled or the number of hours spent for processing applications and handling claims. Model for implementation of activity based costing at the department level in insurance company can be presented as follows:[1]

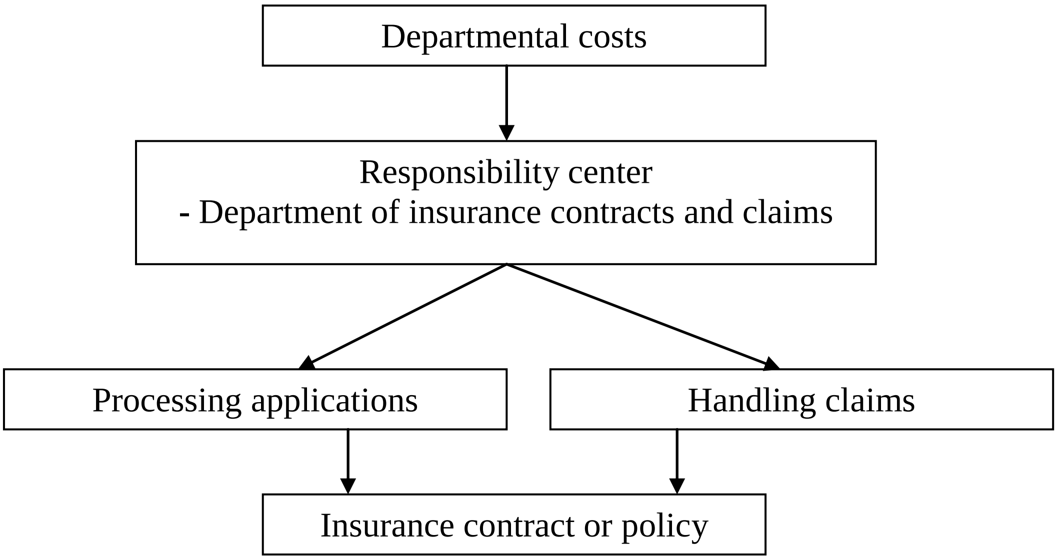

Figure 1.
Model of implementing activity based costing in insurance company

When allocating departmental costs to activities, three activity based costing methodologies can be applied: (a) time-splits, (b) time-capture and (c) time-driven activity based costing.[1] "The choice of methodology should be based upon characteristics of the specific activity being costed and the availability of reliable and robust data."[1] In practice, implementation of activity based costing would be based on all three methodologies, depending on the type of the department and activities performing in certain department.
Time-splits are the simplest activity based costing methodology in which is necessary to determine what proportion of working time managers spent on various activities. According to this proportion, costs are allocated to activities.[1] This method is easy to implement and its implementation involves identification of activities preformed in each responsibility center and determination the amount of time managers spent on each activity.[1] However, there are some weaknesses of this method among which the most significant are: (i) data collection and collation can be laborious, (ii) failure to identify excess capacity and (iii) lack of accuracy.[1]
Time-capture is an activity costing method which is useful for ascertaining how managers and staff split their working time between projects and customers.[1] This method is especially valuable for functions like research and development, IT and other functions where activities are rarely repetitive.[1] This method requires the accurate identification of working time spent on each activity within the responsibility center or function and thus enables the determination of excess capacity.
"Time-driven activity based costing involves allocating costs based on the practical capacity of the resources supplied by measuring (or estimating) the amount of time taken to perform an activity".[1] This methodology requires the identification the exact working time needed to perform a certain activity. The volume of transactions is crucial for the calculation of time-driven costing.[1] This method also enables the accurate identification of excess capacity. Although this method is consider simpler and more accurate than traditional activity based costing methods, it has several weaknesses among which the most significant are: (i) possible lack of availability of

reliable and robust duration drivers, (ii) understanding variances in duration drivers can be difficult and complex, (iii) more surveys for data collection each time when a model is refreshed and recalculated and (iv) huge volume of data.[1]
Particular activity based costing methodology may not be applicable for every responsibility center or activities within insurance companies. In practice, companies will implement all three methodologies, for each responsibility center the most appropriate one, although the most accurate one is time-driven costing.

4. CONCLUSION

Activity based costing is the most significant technique in contemporary business environment which enable the most accurate and reliable information about costs of activities, products, services, customers, distribution channels and other cost objects. In insurance companies, activity based costing can provide management with information regarding the profitability of insurance contracts or policies, customers, segments and sales channels. The most appropriate activity based costing methodology for insurance companies is time-driven activity based costing which requires the identification of working time or labor hours needed to perform a certain activity. The implementation of activity based costing in insurance companies requires the definition of three main factors: activities within a company, cost drivers for every identified activity and cost objects. Activities must be defined in each area of insurance company from top management and corporate functions to operating level and responsibility centers. Every cost incurred in insurance company must be assigned to certain activity and then reassigned from activity to cost objects based on the appropriate identified cost drivers. Cost drivers usually applied in activity based costing system of insurance company are usually labor hours (working time) or number of clams and applications. Cost object in insurance companies are usually insurance contracts or policies, customers and sales channels.

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