

1.1 A practical example of using the ABC calculation in business IT

The company has an extensive team to ensure the proper running of business IT at both the application and the hardware levels. Business IT provides a number of services. Through gradual development, however, the structure of the services began to expand and this was associated with a rise in costs. Due to the growth in the costs of business IT, the management of the company required to perform a cost analysis.

The business IT management has identified the following cost-generating activities, their scope and costs generated by each activity. In the second step, the identified costs were broken down into variable (dependent on the volume of activities) and fixed (independent of the volume of activities) costs. At the same time, it has been determined how the individual provided services/performances are demanding with respect to carrying out different types of activities.

Outputs from the identification of the above facts were confirmed by the management of the company.

Until now, the company has not have optimally set up the accounting for the business IT services or, as appropriate, the accounting of services occurred only in cases where the business IT was able to demonstrate unambiguously that the service/operation was provided to a particular department/person. A typical problem was the costing of the administration of network infrastructure, data storage, etc. This gave rise to discontent within the company.

The aim of the ABC is to perform cost analysis and, where appropriate, propose a new way of accounting for the services provided.

Inputs

The representatives of business IT identified a total of six activities (installation, service, administration, help desk, network usage, data storage). Along with the identification of the activities, the costs associated with them were identified.

Assets	Total costs	Fixed cost	Variable costs	Number of units
Installation	27 000	16 000	11 000	125
Service	67 000	32 000	33 000	241
Administration	157 000	143 000	111 000	366
Help desk	130 000	20 000	70 000	357
Network usage	80 000	23 000	52 000	1524
Data storage	127 000	105 000	31 000	315
Total	589 000	352 000	219 000	x

Table 1 Amounts spent on individual business IT activities

The following table defines the time consumption of activities by applications (e.g. SAP, Operating System, Accounting System, Crystal Reports, MS Office). Each application required for its functionality in the given period (in our case, one month) individual activities in a defined volume of units. Except for network usage, all activities are expressed in hours dedicated by business IT to the given activity. The network usage item is in megabytes.

Assets	SAP	OS	Accounting system	Crystal Reports	MS Office	Number of units
Installation	0	48	23	4	50	125
Service	40	100	62	1	38	241
Administration	139	111	71	15	30	366
Help desk	94	93	135	23	12	357
Network usage	510	500	399	66	49	1524
Data storage	201	3	89	10	12	315

Table 2 Time consumption of activities by applications

1.2 Solution according to the ABC method

The basic purpose of the ABC calculation is to express as accurately as possible the relationship of costs to the cause of their occurrence.

Let's assume that the increase in the business IT costs has raised interest in a more detailed analysis of the development of these costs.

The cost per activity calculation broken down per activities is carried out as follows:

- calculation of fixed costs per unit of activity,
- calculation of variable costs per unit of activity,
- calculation of the costs of the total number of units of activity, which were used in the given period (must be carried out for both the fixed and the variable cost components),
- determination of the total costs of the application-related activities for the given period.

The results of the calculations according to the previous steps are presented in the following table.

Assets	Total costs			SAP		
	Total	Fixed	Variable	Total	Fixed	Variable
Installation	216,00	128,00	88,00	0,00	0,00	0,00
Service	278,01	132,78	136,93	11120,33	5311,20	5477,18
Administration	428,96	390,71	303,28	59625,68	54308,74	42155,74
Help desk	364,15	56,02	196,08	34229,69	5266,11	18431,37
Network usage	52,49	15,09	34,12	26771,65	7696,85	17401,57
Data storage	403,17	333,33	98,41	81038,10	67000,00	19780,95
Assets	OS			Accounting system		
	Total	Fixed	Variable	Total	Fixed	Variable
Installation	10368,00	6144,00	4224,00	4968,00	2944,00	2024,00
Service	27800,83	13278,01	13692,95	17236,51	8232,37	8489,63
Administration	47614,75	43368,85	33663,93	30456,28	27740,44	21532,79
Help desk	33865,55	5210,08	18235,29	49159,66	7563,03	26470,59
Network usage	26246,72	7545,93	17060,37	20944,88	6021,65	13614,17
Data storage	1209,52	1000,00	295,24	35882,54	29666,67	8758,73
Assets	Crystal Reports			MS Office		
	Total	Fixed	Variable	Total	Fixed	Variable
Installation	864,00	512,00	352,00	10800,00	6400,00	4400,00
Service	278,01	132,78	136,93	10564,32	5045,64	5203,32
Administration	6434,43	5860,66	4549,18	12868,85	11721,31	9098,36
Help desk	8375,35	1288,52	4509,80	4369,75	672,27	2352,94
Network usage	3464,57	996,06	2251,97	2572,18	739,50	1671,92
Data storage	4031,75	3333,33	984,13	4838,10	4000,00	1180,95

Table 3 Costs of applications by activities

Interpretation of the results

- The average fixed costs of service in the reference period are CZK 132.78 per hour without taking into account the applications.
- The average variable costs of service in the reference period are CZK 136.93 per hour without taking into account the applications.

- The total average costs of service (i.e., the sum of the fixed and variable costs) amount to CZK 278,01 per unit.
- In the case of the specific application Crystal Reports, we have found that:
 - the total fixed costs of the administration of the Crystal Reports application are CZK 5.860,66 for the defined period,
 - the total fixed costs across all activities for the application are CZK 12.123,35 for the defined period,
 - the total variable costs across all activities for the application are CZK 12.784,01,
 - the total costs of the Crystal Reports application for the given period amount to CZK 24.907,36.

Based on the above, it is possible to determine the specific cost of any defined activity in the context of the selected application. It is also possible to determine the average costs of activities across all applications, always broken down to the fixed and variable parts.

The next step would be the conclusion of an agreement to provide a specific service (e.g. SAP, OS, etc.) with the business IT department. Depending on the volume of the ordered service, the service price would then be calculated for a particular in-house department. Let's assume that the SAP service will be ordered by the departments Economy (80 hours a month) and Human Resources (100 hours per month). As a rule, business IT provides services at such a price so as to cover its costs.

The total ordered scope is 180 hours per month. Due to the fact that the costs are given for one month of the provision of the service, the service price for each of the departments will be determined as follows:

- determination of the price of the service per one ordered hour is CZK 2.521,030,
- price of the service for each of the departments, which ordered the service within the specified scope:
 - the Economy department ordered the service in the scope of 80 hours a month, which totals CZK 201.682,42
 - the Human Resources department ordered the service in the scope of 100 hours a month, which totals CZK 252.103,03.