

MANAGING CUSTOMER PROFITABILITY TO IMPROVE CORPORATE PERFORMANCE IN PSF

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Abstract

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The paper discusses issues related to cost accounting systems and customer profitability analysis in professional service firms (PSFs), which have rapidly increased in Europe during the last decade. Because few research studies on cost accounting and customer profitability in PSFs have been reported, one of the main paper's contributions relies on exploring the informative advantages of activity-based costing (ABC) compared to the cost centre accounting system. The research methodology used is a case study in which it is possible to investigate the link between the PSF's costs and pricing/value drivers through service attributes and customer profitability analysis. The main findings show that the ABC system strongly supports the management of the cost-value relationship.

Keywords: Professional Service Firms, Cost Accounting, Activity-Based Costing, Cost Centre, Customer Profitability Analysis, Accountancy Practice

1. INTRODUCTION

To date, the relevance of service industries in many countries and in various aspects of economic activities has been widely acknowledged (Gallouj et al. 2015; Lowendahl, 2000; Patterson, 2016). Recent data reveal that the value added by services has grown worldwide, and lately, interesting research about the heterogeneity among service industries has been diffused (Gronroos 2000; Lowendahl, 2000; Von Nordenflycht, 2010). Particularly, this paper pays attention to one set of services, comprising those involving a high level of specific expertise or knowledge, constant pressure for customisation and difficulties in quality measurement, often provided by one firm to another (Alistair et al., 2016; Goodale et al., 2008; Greenwood et al., 2005; Lowendahl, 2000; Von Nordenflycht, 2010). The companies providing these kinds of services are often called *professional service firms* (PSFs). They are worth studying because they constitute a significant sector of the economy, whether measured by size, profit or influence. The statistics from the European Union (EU) reveal that among EU non-financial businesses, professional, scientific and technical services accounted for 4,041 thousand enterprises in 2013,

employing 11.7 million persons and generating €625 billion of value added. Their contributions to the non-financial business economy comprised 17.9% of the enterprise population, 10.0% of the workforce and 8.8% of value added (Eurostat, 2016). Surprisingly, however, few studies on the topic of management accounting in these firms have been reported (Groen et al., 2012; Karreman et al. 2002) and, to the best of our knowledge, detailed studies on cost accounting in PSFs were not published. The majority of researches concern organizational features, competitive strategies or communications to clients (Alistair et al., 2016; Briscoe, 2007; Cusumano et al., 2015; Greenwood et al., 2005; Morris et al., 1998; Patterson, 2016; Verma, 2000).

The complexity of professional services involves both providers and clients. From the providers' point of view, the services are often described as unique because they have high-credence qualities, and their core outputs are applied knowledge and skills that are difficult for customers to acquire. These PSFs are also defined as firms "whose primary assets are a highly educated workforce and whose output[s] are intangible services encoded with complex knowledge" (Greenwood et al., 2005, p. 661). Their employees are usually highly experienced, and the firms have to

manage and control a large amount of activities to deliver what has been promised, involving both the clients and the professionals. These processes entail a high degree of customisation and at the same time, a high level of discretionary effort and personal judgment by the professionals (Lowendahl, 2000). Usually, each client has a personal relationship with the firm and the professional worker (Goodale *et al.*, 2008), who tries to develop a specific set of services suitable to each customer. Some authors define this issue as the “idiosyncrasy of the service” (Lowendahl, 2000). The customisation of the delivery process is also due to the specific knowledge and expertise required of providers who are supposed to know more than their clients about the services supplied. Accordingly, clients find it difficult to evaluate the quality of such services and the asymmetrical nature of information flow means that the communications has a crucial role (Patterson, 2016). At the same time, clients should also be knowledgeable about the kinds of services they require and the potential services provided by other suppliers to choose the most appropriate ones for them. All these issues suggest that professional services offer important value-creation opportunities for both providers and customers. Professional firms are required to supply highly complex sets of services with a high degree of heterogeneity and at the same time, to reconcile these customisation strategies with cost-containment policies to increase efficiency.

Literature has tried to identify some frameworks to find out the specific features of professional services, but given that PSFs are not unique, the authors shed light on different proposals. For example, Lowendahl (2000) describes the fundamental characteristics of professional services as the presence of highly qualified individuals, idiosyncratic client services, and subjective quality assessment. He also discusses the resulting managerial challenges, including difficulties in guaranteeing service quality, high complexity of operational management, high organisational flexibility required, a significant degree of innovation and uncertainty when the services required are not similar to the previous ones, and strategic resources often embedded in the individual professionals rather than in the firm itself. Other researchers focus on the PSFs’ unusual strategic and organisational challenges and on the variety of knowledge management strategies that affect the firms’ performance (Greenwood *et al.*, 2005; Karreman *et al.*, 2002; Morris *et al.*, 1998). More recent studies (e.g., Von Nordenflycht, 2010) underline three main characteristics that could be present in different degrees in all PSFs. The first concerns the knowledge intensity of the output due to the presence of an intellectually skilled workforce, with a strong preference for autonomy and a low degree of standardisation of the services supplied. The second is low capital intensity, referring to the minimal amount of non-human assets involved in the production processes. The third involves a professionalised workforce that provides the knowledge base of the activities, as well as controls and performs them on the basis of ethical professional codes that narrow down the appropriate behaviour of professionals. Given these characteristics, the consequences in terms of managerial and accounting challenges are particularly important. This study deals with the

aspects linked to the identification of the most suitable cost accounting system for PSFs that provide accounting and consultancy services.

The case study shows that the traditional costing methods used before the development of the *activity-based costing* (ABC) had systematically distorted the product costing (Johnson and Kaplan, 1987; Labor, 2006) because they underrated the unit cost when a firm’s provision processes were characterised by low volume and high heterogeneity. Consequences also arise for the price definition policies because these lead to wrong decisions made based on incorrect cost information. A different costing system should be defined, aiming to better reflect the cause-and-effect relationship in resource consumption patterns and to identify the right sources of value for customers. The case study analysed in the next sections highlights the potential benefits of the ABC system. Moreover, insights into *customer profitability analysis* (CPA) based on the ABC system are offered to emphasise how the outcomes of such analysis can help managers make better decisions regarding many managerial issues (i.e., discount and pricing policies, sales policies and strategic position).

This study proposes at least two main contributions to the existing literature. First, it supports the application of ABC to PSFs, stressing the value of ABC to provide managers detailed cost information. Second, the analysis of CPA and cost accounting system in the set of PSFs sheds light on the ABC system’s accuracy in identifying both the cost and the profitability of the services provided by these particular firms.

The paper addresses these issues by proposing an analysis of the cost accounting systems used in PSFs. The next section explores the studies on professional service firms and the value of customer profitability analysis. The third section proposes the application of the ABC system to professional services and its support to the customer profitability analysis. The fourth section presents the case of a PSF comprising certified accountants, usually characterised by diffused informal management processes, little strategic planning and few formal control systems (Pierce *et al.*, 2005; Von Nordenflycht, 2010). The last sections summarise the study’s findings and the conclusions.

2. SERVICE ANALYSIS AND PROFITABILITY ISSUES IN PROFESSIONAL SERVICES

Typically, PSFs refer to knowledge-intensive firms, usually involved in a variety of activities, from the law, civil engineering and architecture to audit and accounting, consulting, advertising and software production (Morris, 1998). Specifically, “the term PSF refers to an organization that trades mainly on the knowledge of its human capital that is its employees and the producer-owners, to develop and deliver intangible solutions to client problems” (Morris, 1998, p. 610). Particularly, PSFs share some common features, such as high qualifications and professional backgrounds of their employees and the complexity or non-standardisation of the services provided (Greenwood *et al.*, 2005; Groen *et al.* 2012; Karreman *et al.*, 2002). In these firms, one of the key issues is the variety of forms of knowledge involved, which translate into the diversity of services provided and the decentralised organisational structure.

Generally, previous studies on service organisations underline the scarcity of research on management accounting and cost information (Auzair and Langfield-Smith, 2005; Berts and Kock, 1995; Gunaserakan *et al.*, 2005; Modell, 1996). The studies focus on key topics concerning the behavioural implications of the application of management accounting in service contexts, as well as the influence of contingent variables on the design of the management control system in service organisations. For example, Modell (1996) claims that aspects such as costing and performance measurement have often been analysed, identifying specific techniques to overcome the traditional problems in service organisations, the simultaneity of production-consumption phases and the intangibility of the services provided.

Clearly, these specific features affect PSFs' functioning, as well as performance. Groen *et al.* (2012) explore how performance measurement systems in small PSFs are able to increase the employees' understanding of the firms' strategies, lead to greater knowledge exchange among employees and enable them to create new knowledge. However, apart from the few studies dealing with PSFs' performance (Greenwood *et al.* 2005; Groen *et al.*, 2012), to the best of our knowledge, the aspect of cost measurement has not yet received much attention. Particularly, the PSFs' characteristics regarding the activities involved, the services provided and the role of clients has significant consequences for the development of a suitable costing system. One of the key topics affects the identification of the *final objects* of cost allocation and the analysis of their resource consumption.

The existence of a provisioning process, characterised by a broad set of services chosen by each buyer, idiosyncratic services, and high organisational flexibility, has significant implications because the object that links the firm and the customer is not easily identified. The identification of the value perceived by customers (encompassed by the sale price) is also not an easy matter to be solved.

The development of PSFs requires shedding light on these issues and on the internal processes involved in resource consumption in order to perform an adequate cost analysis, as well as a detailed customer profitability assessment.

In general, the literature defines customer profitability analysis (CPA) as "a technique that examines revenues, costs, and profit by individual customer or customer group" (Noone and Griffin, 1999, p. 112). Its main results lie in the availability of detailed accounting information regarding the profitability of each customer, as well as the distribution of profitability among those in the customer base. Today, the benefits of such analysis are widely acknowledged in the literature (Cardinales *et al.*, 2004; de Wayne, 2004; Noone and Griffin, 1999; van Raaij, 2005; van Raaij *et al.*, 2003) and can be summarised as follows:

- Revenues from individual customers are managed, mainly through pricing, that is, pricing discounts (in the absence of CPA discounts, they are usually based on sales volume), pricing of value-added services and discriminatory pricing.
- The costs allocated to customers are managed: without correct allocation of costs to

customers, managers are unable to control the costs of the services required by the customers. In this vein, the key to a successful implementation of CPA lies in the identification of an appropriate costing system. Moreover, the ABC's relevance is nearly completely recognised, especially in complex marketing settings such as those where a firm interacts with many customers who are heterogeneous in their cost behaviours and often faces simultaneous decisions regarding each customer.

- Risks related to the dependence on customers are managed, referring to the extent to which the overall profitability relies on a few customers.
- Risks related to subsidisation by customers are managed, referring to the extent to which profits generated from profitable clients subsidise losses from other clients.
- Strategic analysis is performed, related to segmentation, targeting and positioning. Once customers have been segmented according to profitability (i.e., profitable, break even or unprofitable) and target segments have been selected, firms could use CPA to develop different value proposals for various customer segments.

Clearly, CPA represents a potential tool for PSFs to understand how profitability is distributed in the customer base.

3. MEASURING THE COST TO SERVE THE CUSTOMER

As discussed in the previous section, the analysis of the service provision processes is a key challenge to understanding the activities performed by a PSF. This section proposes the identification of a cost accounting system that is consistent with this aim.

The literature on cost measurement describes a variety of approaches to adopting the cost accounting system. These can be grouped into two basic alternatives - cost measurement systems based on cost centres (CCs) and systems using activities as intermediate aggregates of costs (ABC). A CC is a unit of a company's organisational structure (departments, offices, laboratories, and so on), characterised by a certain amount of assigned resources, a given technology and a homogeneous group of results (Anthony and Young, 1988). The CCs are normally divided into production and indirect CCs (auxiliary, service and virtual). The system defines the drivers that are able to express the final centres' absorption of the intermediate centres' resources. Drivers based on volume are typically used. When all the costs are collected in the final CCs, their allocations are passed on to the product by identifying the drivers that can represent the intensity with which each product absorbs the resources of the CCs.

The CCs' methodology has been discussed in detail in the literature, which has highlighted the complexities of the allocations of intermediate CCs to final ones by drivers linked to volume. This represents one of the main problems when applied to service firms. Actually, this method's main limitation is inherent to the nature of the CCs because they are designed to reflect a company's hierarchical structure. For this reason, they are unable to correlate the costs incurred by the

company to the value generated for the customer (Greene and Flentov, 1990). Particularly, it is not easy to measure costs in companies providing numerous, heterogeneous and interrelated services, where clients can use different combinations of services or choose different ways of delivery.

The existing literature seems to agree on updating traditional costing systems. In particular, many studies shed light on the potential benefits of applying the ABC system (Beaujon and Singhal, 1990; Brimson, 1991, 1998; Brimson and Antos, 1994; Cooper and Kaplan, 1989, 1991, 1999; Kaplan and Anderson, 2004). Among others, Fitzgerald *et al.* (1998) claim that while traditional systems may be suitable for a low number of clients and tasks, the same system is inappropriate for companies providing interrelated services, where clients can use different combinations of services. In fact, one of the fallacies of the traditional cost accounting system is that very few customers consume the same amounts of resources and require the same kinds of services (Chea, 2011).

In the ABC system, the analysis focuses on activity, which is defined as a combination of people, technology, raw materials, and environment, aimed at realising a final output (Kaplan and Cooper, 1998). The emphasis on activities allows identifying what a company does, the way it exploits its resources and the results achieved (Brimson, 1991). The ABC system focuses on the management of resources that cut across organisational units and often represent core resources or competencies that impact a company's ability to compete in different markets (Hergert and Morris, 1989). This aspect is particularly significant in PSFs, where the production process often takes on a cross-cut sequence regarding the organisational structure. In this sense, ABC allows PSFs to overcome one of the main limitations of the CC system, which is strictly designed to reflect a firm's organisational structure and does not correlate costs to the value generated for the customer.

Several authors (Carù and Cugini, 1999; Cooper and Kaplan, 1991; Rotch, 1990) show how the ABC system is successfully applied to various service companies, such as hospitals, banks, insurance companies, railway companies, data management providers, and so on. Although some authors (Yoshikawa *et al.*, 1993) state that the implementation of an ABC system in a service company is very similar to that of an industrial company, others claim that the framework that is

useful for physical products, based on target cost management and product attribute costing, cannot be directly applied to tertiary sector activities (Ansari and Bell, 1997; Bromwich and Bhimani, 1994). More recently, Chea (2011) proposes a review of the application of ABC in the service sector. He argues for the potential benefits of ABC in this setting because service firms face important changing environments and need to introduce new cost management practices (e.g., ABC) in order to remain competitive. In fact, in service industries, competition concerns both existing services and increasing customer requirements; at the end, it leads to a significant compression of profit margins. Usually, these firms need to focus on undertaking myriad activities in order to serve each customer; therefore, the identification of the cost to serve becomes a critical success factor. Regarding professional services, Chea (2011, p. 9) argues, "It is probably easier to implement ABC, as costs are not so difficult to trace to different activities". Nevertheless, to the best of our knowledge, this issue has not yet been investigated in depth; thus, this study could offer additional insights.

As for the system that fits PSFs, it is worth remembering that some authors (Fitzgerald *et al.*, 1991; Lovelock, 1994) argue that in labour-intensive service companies, labour costs can easily be allocated to individual tasks by measuring the time that employees take to perform the same task. Additionally, the ABC system ensures correct allocation of service provision costs. Therefore, ABC is identified as an adequate cost accounting system, especially for PSFs since they are characterised by dynamic phenomena linked to production and consumption processes, the heterogeneity of outputs, the variety of clients and substantial indirect and fixed costs.

As mentioned, this paper describes the adoption of ABC in a PSF. In the case study, cost objects are defined by the service provided. They are analysed in order to understand their relationships with the activities and with the value created for the clients.

4. RESEARCH DESIGN AND SETTING

This study was conducted in an Italian PSF. The firm's (hereafter UC) accountancy practice provides accounting, fiscal, corporate and employment services and consultancy (Table 1).

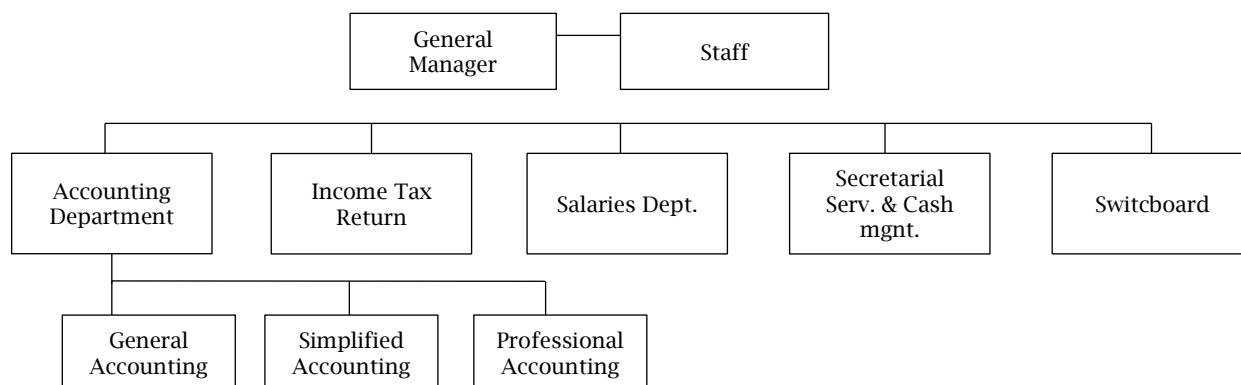
Table 1. Services provided by UC

<i>Services provided</i>	<i>Description</i>
1) Consultancy and fiscal services	Ordinary and special fiscal consultancy for companies, organisations and private clients; Preparation of compulsory annual and periodical fiscal declarations; Tax payment service for corporate clients; Assistance at tax offices; Assistance during inspections, checks, and assessments; Fiscal assistance for special transactions and company reorganisation.
2) Accounting consultancy and services	Bookkeeping and accounts management; Accounting consultancy and assistance for companies and private clients; Planning and control of company management.
3) Company consultancy	Consultancy for setting up a company; Planning and consultancy for special company transactions; Consultancy for relationships between partners.
4) Consultancy and employment services	Staff administration; Handling the pay register; Liaison with social security and welfare; Staff cost estimates and presentation of the financial statement.
5) Economic and financial consultancy	Analysis and control of the financial structure; Examining and assessing investments.

The firm has approximately 70 employees, and its organisational structure is a functional type, characterised by highly specialised human resources (Figure 1). Figure 1 shows five service units on the second row (Accounting Department, Income Tax Return Department, Salaries Department, Secretarial service and cash management, and Switchboard).

The majority of the activities are provided by the Accounting Department, divided into three subunits: General, Simplified, and Professional. Most of UC's clients are private companies (single entrepreneurs, traders and professionals, partnerships and joint-stock companies), and the remainder consists of local authorities and public administrations.

Figure 1. UC's organisational structure



Undertaken in 2012, the project was organised according to the analysis of the cost accounting systems adopted. Before the introduction of the ABC system, UC used a CC-based method to calculate the cost of client service; the CCs coincided with the organisational units. Client cost allocation was carried out by measuring the hours spent by each CC on individual clients, multiplied by the annual hourly cost of each CC, which was calculated by dividing the total annual cost of the CC by its production capacity, expressed in man-hours. Thus,

the customer profitability was obtained by subtracting the sum of the attributed costs of the various CCs from the client revenue (Table 2).

Table 2 highlights the allocations of the costs from the direct CCs to clients Alpha, Beta and Gamma. Direct CCs are those for which UC can calculate the hours dedicated to the various clients. The costs of the indirect CCs (management and staff, switchboard, secretarial staff and cash desk) are allocated to the clients on the basis of the total costs of the direct CCs absorbed by the clients.

Table 2. Calculating customer profitability using the cost centre (CC) system

	<i>Hourly cost</i>	<i>Client Alpha</i>	<i>Client Beta</i>	<i>Client Gamma</i>
Revenues		65,000	47,800	29,100
General Accounting Subunit	27.32			
Hours registered per year		970	420	
Cost allocated by the CC		26,501	11,475	
Simplified Accounting Subunit	26.86			
Hours registered per year				245
Cost allocated by the CC				6,581
Professional Accounting Subunit	24.60			
Hours registered per year		15	56	5
Cost allocated by the CC		369	1,378	123
Income Tax Return Department	37.66			
Hours registered per year		85	75	80
Cost allocated by the CC		3,201	2,825	3,013
Salaries Department	29.48			
Hours registered per year		366	340	280
Cost allocated by the CC		10,789	10,022	8,254
Total client hours		1,436	891	610
Total costs of the direct CCs		40,860	25,699	17,970
Indirect CCs:				
Secretarial services and cash management		2,175	1,368	957
Management and staff		3,795	2,387	1,669
Switchboard		1,789	1,125	787
Total cost per client		48,618	30,579	21,382
Margin per client		16,382	17,221	7,718

The application of the ABC system has allowed 34 activities to be identified, listed in Table 3. The next step is to calculate the annual hourly cost of each activity, obtained by dividing the total annual cost by the total annual number of hours for each

activity. The hourly cost is then multiplied by the number of hours spent on each client in order to find the exact cost of each activity performed for the client.

Table 3. Activities in UC's production process

	<i>Activities</i>	<i>Costs</i>	<i>%</i>
1	Gathering documents	149,318	1,2
2	Registering invoices	1,094,646	8,8
3	Managing periodic and annual Valued Added Tax	86,510	0,7
4	Registering clients' documents	653,929	5,3
5	Checking clients' current accounts	174,381	1,4
6	Preparing and checking annual balance sheet	566,738	4,6
7	Preparing and checking mid-year balance sheet	348,762	2,8
8	Preparing mid-year economic statement	301,494	2,4
9	Performing sector analysis	312,828	2,5
10	Holding meetings with clients	147,304	1,2
11	Managing the operations schedule	105,939	0,9
12	Checking annual balance sheet and Valued Added Tax	134,575	1,1
13	Providing internal assistance	393,532	3,2
14	Researching, reading, managing internal documents	276,208	2,2
15	Managing income tax returns	364,573	2,9
16	Processing income tax returns	236,203	1,9
17	Calculating and paying local tax	139,073	1,1
18	Managing tax litigation	94,884	0,8
19	Scheduling meetings with clients	339,180	2,7
20	Visiting public institutions or organisations	169,590	1,4
21	Fulfilling coordination and general management tasks	231,754	1,9
22	Performing secretarial duties	257,746	2,1
23	Registering and paying internal invoices	190,199	1,5
24	Checking invoices, current account balances, petty cash	240,563	1,9
25	Managing new and existing contracts	99,781	0,8
26	Managing salary documents	647,189	5,2
27	Filling out salary reports and forms	269,662	2,2
28	Preparing monthly salaries	1,752,308	14,1
29	Filling out employees documents	151,011	1,2
30	Daily updating of Salaries Department	93,935	0,8
31	Periodical updating	232,429	1,9
32	Handling telephone calls	217,649	1,8
33	Providing telephone consultancy/assistance	1,461,126	11,8
34	Performing other activities	453,621	3,7
	Total costs of activities	12,388,639	100,0

The costs of serve the individual clients are linked to the types and amounts of services they require. The services provided by UC vary according to the clients' characteristics and demands. Consequently, the activities comprising UC's production process do not represent fixed links in a chain that grows in a pre-defined sequence, but they may be combined in different ways, depending on the clients' characteristics. It follows that to calculate the costs of providing the services required

by the clients, it is first necessary to identify the relationship between the activities carried out by UC and the individual service offered to its clients and then to calculate the cost of the services that each client uses.

Table 4 shows an example that highlights a client's profitability through the analysis of the profitability of each service bought by the client. The table shows that not all services create a positive margin.

Table 4. Profitability of an individual customer (Part 1)

<i>Total client revenues</i>	<i>104,000</i>	<i>%</i>
<i>Tax and fiscal consultancy and services - revenues</i>	<i>8,000</i>	
12. Checking balance sheet and VAT	1,759	
15. Managing income tax returns	1,902	
16. Processing income tax returns	652	
17. Calculating and paying ICI tax	1,109	
18. Managing tax litigation	1,017	
19. Scheduling meetings with clients	1,507	
20. Visiting public institutions or organisations	3,015	
23. Registering and paying invoices	745	
Total cost of tax and fiscal services	11,706	
<i>Margin of the service</i>	<i>-3,706</i>	<i>-46,3%</i>
<i>Consultancy and accounting services - revenues</i>	<i>44,000</i>	
1. Gathering documents	801	
2. Registering invoices	9,659	
3. Managing periodic and annual VAT	534	
8. Preparing mid-year economic statement	3,744	
9. Performing sector analysis	4,949	
10. Holding meetings with clients	2,117	
19. Scheduling meetings with clients	565	
33. Providing telephone consultancy/assistance	1,115	
Total cost of accounting services	23,484	

Table 4. Profitability of an individual customer (Part 2)

<i>Margin of the service</i>	20,516	46,6%
<i>Consultancy and employment services - revenues</i>	52,000	
1. Gathering documents	801	
23. Registering and paying invoices	229	
26. Managing salary documents	324	
27. Filling out salary reports and forms	1,780	
28. Preparing monthly salaries	20,261	
29. Filling out CUD and INAIL forms	431	
33. Providing telephone consultancy/assistance	8,919	
Total cost of employment services	32,745	
<i>Margin of the service</i>	19,255	37,0%
<i>Total costs to serve the client</i>	67,935	
<i>Total profit margin earned from clients</i>	36,065	34,7%

Table 5 compares the results of the CC and the ABC systems, with reference to three UC clients. The table shows that the two cost accounting systems highlight significant differences in the cost of the clients and consequently in their margins.

The reason for such differences particularly lies in the allocation of the costs of the indirect CCs. By using a CC system, all the costs of the indirect CCs are allocated to the clients on the basis of the costs attributed to them by the direct CCs. Consequently, the costs of the management and staff are completely attributed to the client. In contrast, ABC highlights that some activities, such as no. 21 (coordination and general management), cannot be attributed to the clients, unlike other activities involved in this organisational unit, which are allocated to the clients because it is possible to measure their outputs consumed by the various clients.

Table 5. Comparing CC and ABC systems

	<i>Client Alpha</i>	<i>Client Beta</i>	<i>Client Gamma</i>
<i>Activity-based costing</i>			
Total cost to serve customer	42,800	33,754	19,420
Profit margin earned from customer	22,200	14,046	9,680
Incidence of margin on revenue	34,2%	29,4%	33,3%
<i>Cost centres</i>			
Total cost to serve customer	48,618	30,579	21,382
Profit margin earned from customer	16,382	17,221	7,718
Incidence of margin on revenue	25,2%	36,0%	26,5%

Another example concerns the Accounting Department, whose head carries out both the activities directly attributable to each client and internal activities unrelated to the client. The ABC system allows UC to attribute to the client only the costs of the activities that have actually been performed for the client, whereas activities such as managing the operations schedule (no. 11), providing internal assistance (no. 13) and researching, reading and managing internal documents (no. 14) are not attributed to the clients. By using the CC system, the costs of these activities become included in the accounting CC and are attributed to the client, along with all the other costs of the CCs.

Table 5 also shows the cross-subsidising phenomenon; the CC system attributes the indirect costs to the various clients somewhat inappropriately. This is reflected in a client profitability that is just as imprecise; therefore,

some clients appear more profitable than they actually are or vice versa.

5. DISCUSSION

This study discusses the cost accounting system that fits the characteristics of PSFs. It is widely acknowledged by the literature that PSFs present unique features in terms of the involvement of highly qualified workers, co-production between the firms and their clients and non-standardisation of the services provided (Greenwood *et al.*, 2005; Groen *et al.*, 2012; Karreman *et al.*, 2002; Morris, 1998). In this context, the identification of a cost accounting system cannot ignore the complexity of the set of services provided. Therefore, given the analyses carried out, the most significant conclusions are the following:

First, in PSFs, it is not possible to identify a generic “company’s offer” because it depends on the services that each customer wants to buy. It follows that the customer profitability is the result of the profitability of the individual services required and used by each customer. Consequently, the customer cannot be the object of cost calculation. Cost calculation should be based on the individual services offered to each customer because only in this way will a firm be able to know the origin of the overall cost it incurs to create value for each customer. In other words, the service is the object to which the costs are assigned, while the customer occupies the second level of cost attribution.

Second, the analysis highlights that each service is the result of several activities undertaken by the various organisational units. The activities are not performed autonomously but integrate with each other; therefore, it is necessary to observe them from a process perspective. This aspect takes on particular significance in PSFs, where the production processes often tend to assume a transversal sequence with regard to the organisational structure. Perceiving the organisation as constituting a group of processes, instead of a hierarchy of organisational units, is one of the most important requisites for managing customer profitability in services. The emphasis is placed on the resources that cut across the organisational units transversely and often represent key resources/competencies that influence the quality of the company’s offer and hence customer satisfaction.

Third, the comparison between the two cost accounting systems (CC and ABC) applied to UC highlights the traditional system’s (CC) inadequacy in providing reliable information about customer profitability. The following two elements can be considered the origins of such shortcomings. The first one concerns the nature of CCs, as they tend to coincide with the organisational units and therefore

follow the separation of company operations in the functional departments. In this way, CCs do not reflect the company processes from which the services provided to the customers originate. The second drawback revealed by the analysis involves the identification of the activities that constitute the indirect costs, highlighting the fact that in PSFs, cost measurement should focus not only on the activities of the provision process in the narrow sense of the term but also on supporting activities.

The CC system assumes that the volume of the services provided (in UC, represented by the direct costs spent on the customers) is the origin of the indirect costs. In fact, the amount of the direct costs (the result of the hours of direct labour) is then used to divide the indirect costs among the customers. The result is the cross-subsidising phenomenon since a customer is attributed the cost that should have been allocated to another customer (Turney, 1989, 1992). It thereby overestimates the cost of high-volume services while underestimating the cost of low-volume services even though they are often the main causes of the increase in the company's indirect costs (Johnson, 1988). This aspect is particularly important in PSFs because in building up a long-term relationship with a customer (particularly a medium-to-large company), the various indirect activities can be undertaken with variable intensity, depending on the client's characteristics.

For all the reasons described above, it is possible to state that in PSFs similar to the one analysed, it is inappropriate to use a cost accounting system based on CCs. The reason is that designed in such a way as to reflect their respective hierarchical structures, the PSFs do not mirror the processes from which the services supplied to their clients originate.

6. CONCLUSIONS

The main argument of the paper is that professional services require designing specific cost accounting

system in order to identify their main profitability areas. The development of cost accounting system based on activities supports managers to control resources and values drivers. Moreover, breaking down the supplier's production process into activities facilitates also the management of the customer-supplier relationship. In particular, each activity represents a dimension of analysis that is able to express that relationship. When activities are properly identified, they constitute the starting points to measure the customer's consumption of the company's resources. In this line of reasoning, the application of the ABC methodology represents the necessary prerequisite to understand and measure the real cost to serve the customer.

Similar to all research, this one is also subject to several limitations. The first is related to the case study presented, due to the lack of generalisation. Therefore, it cannot be assumed that in all PSFs, the application of a cost accounting system based on activities produces the same results. The second drawback concerns the limits of the ABC methodology itself. Some authors are quite sceptical. For example, Goddard and Ooi (1998) claim that ABC requires more time and resources in its development and maintenance compared with the traditional cost accounting system. They suggest that while ABC is not a panacea for the overhead cost allocation, it may lead to an improvement in the relationship of such allocations to the actual usage of services.

In future research, it would be interesting to examine the use after the development of the ABC system to provide more insights into whether the system impacts the PSFs' everyday activities. Moreover, it would be worthwhile to investigate if and how the ABC system evolves over time and how it influences a firm's portfolio strategies. In addition, because PSFs are not unique, future research could explore if and how both cost analysis and CPA change among PSFs. In general, new empirical works may provide greater insights into the management of PSFs and their specific features in term of costing and key performance drivers.

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