The Reasons Behind the Non-Application of the Activity Based Costing System in the Service Industry in Lebanon

By

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Dedication Page

To my loving parents, my brothers and sisters, and my best friends

who supported me so I can generate

such a great work.
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The Reasons behind the Non-application of the Activity Based Costing System in the Service Industry in Lebanon

Ghiwa Ali Dandach

ABSTRACT

The Activity Based Costing (ABC) system, despite its spread in the First World Countries and the recognition of its importance also in the third world countries, is not adopted in the service industry in Lebanon while costing output. This thesis seeks the reasons behind the reluctance of decision makers from applying the Activity Based Costing system. The study relied on prior research and studies undertaken on this topic abroad. Hypotheses were developed stating the most significant reasons that were tested through survey and interviews. Eventually, statistical results revealed that the real factors prohibiting the application of the ABC system are the lack of commitment of controllers and employees, the necessity to change internal culture, the availability of financial and time resources and the satisfaction of the current costing system. Other factors sum up as the priority of company to other considerations, and the lack of technology.

Keywords: Activity Based Costing System, Adoption, Service Industry, Allocation, Indirect Costs, Overhead Costs, Cost Management, Decision Makers, Traditional Costing, Standard Costing.
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Chapter I

Introduction to Costing Systems

A. Overview and Background

Costing systems adopted by different companies constitute an important factor of their financial representations. The method used to allocate costs reflects the level of technology, complexity, controllers’ knowledge and expertise, level of training of employees, and the concern and support of top management. The activity based costing system is a current but not a new costing system. However, its spread and diffusion compose a very small percentage in comparison to the traditional costing system especially in the manufacturing sector in Asia and Africa. And as previous statistics show: in Tunisia, a survey regarding the adoption of the Activity Based Costing system and in which 80 manufacturing companies participated reflected that only 19 companies adopted the system (23.75%) (El Hamma, 2012). The same applies to the following: in Cameroon, the adoption rate is only 9.3% (Ngongang, 2010), in South Africa it’s 12% (1, Eitzen, & Kamala, 2007), in Thailand, it’s 35% (Chongruksut & Brooks, 2005), and in Malaysia, it’s 36% (Ruwanita & Daing, 2007).

And in a related study undertaken in Jordan regarding the application of the ABC system in steel and iron companies, results showed that 71.4% of the respondents didn’t apply the activity based costing. And what’s remarkable is that 92.9% justified this fact
by stating that some obstacles that we will mention later on lie between the company’s will and the application of the ABC system (Al-Refa’ee, 2012).

Al Refa’ee (2012) study along with many others has validated the benefits of the ABC system in any organization if applied with careful management and supervision. It helps companies that have different product mix and complex costs to easily and quickly allocate and differentiate these costs. The efficiency and the time saving that result from the ABC implementation lead to more accurate financial information and better cost management and cost improvement as was already proved by Atkinson (2001).

However, the Lebanese service industry is still buried under the traditional costing system. This system used to allocate the volume costs to cost objects based on one volume cost driver. And as competition requires increasingly more informed pricing and production decisions (Argyris & Kaplan, 1994), the traditional costing system cannot be anymore applied in the region’s companies.

**B. Need for the study**

The service industry in the Arab world generally, and in the Lebanese market specifically, is still mining under traditional costing system despite all technological advances. And because the service industry in Lebanon constitutes about 75% of the national economy (Jbara, 2008), it should be the spot of interest of most researchers. Searching and finding solutions for the factors that prohibit such significant sector from operating efficiently mean pushing indirectly the economy forward through better performance. Most of the service sector whether telecommunications, insurance, banking, or auditing are up till now trapped in the traditional accounting system which
allocates the company’s overhead costs to the performed services based on a single cost driver, which is in most cases the direct labor. However, whenever we talk about companies offering a mix of services and resulting in a complex bundle of overhead costs, it would be a waste of time to keep using only one cost driver. Doing such thing will result in costs’ misrepresentation. Any financial misrepresentations in today’s competitive market will decrease market share and available funding resources. And as companies strive hard to survive under severe economic conditions, the least help provided must be welcomed and applied as soon as possible before competitors have access to it. The problem for the application of the ABC system is that it’s a publicly accessed, open system that any company can benefit of it; however, few tend to apply it. In Lebanon, because of the non-existence of studies related to the adoption rate of the ABC system, statistics are unavailable; yet, the rate is definitely very low.

C. Research Problem

Experts in the management accounting field advise companies and organizations to apply the ABC system as a costing system on which decision makers can rely for their major decisions. And several studies have been done regarding the application of the activity based system in the Arab world and most of these studies have verified the benefits of such application as shown previously. However, the service sector in Lebanon is still falling behind the application of ABC system. And the case in Lebanon is not far from the world’s cases where managers are reluctant when it comes to the application of this system. The major obstacles can be defined as such: the lack of experience that the controllers suffer from or the absence of specialized background and knowledge. The size of the organization can also play an important role as shown by El Hamma (2012) that
among his survey consisting of 48 small enterprises and 52 large enterprises in Morocco, only 21.87% of the large enterprises and 3.33% of the small enterprises adopted the ABC system. Other major reasons can be related to the lack of training of employees, the weak support of management for ABC implementation, and the complexity of the ABC system. Also, applying the ABC system means that enough data are present for later control and responsibility and this actually threatens financial controllers.

**D. Research Objectives**

The study aims to investigate and analyze accurately the major reasons that prevent or impede managers from applying the ABC system.

**E. Relevance of the study**

The study upon its completion will uncover the reasons behind the non-application of the ABC system in the service industry in Lebanon. It must form a reference for managers and decision makers to better solve the weaknesses in their organizations through the application of the ABC system. Also, this research complements prior studies discussing the low rate of adoption of the ABC system in the Arab world especially that no related research has been already taken in Lebanon. The study will highlight the importance of the ABC system and verify the advantages that organizations can detect through its implementation and how it reflects on the company’s financial performance. It also spots the light on the areas where managers can improve to eventually apply the ABC system to gain more competitive advantage in today’s market.
F. Limitations of the study

The study included 50 respondents out of which only 35 candidates returned their answers. The questionnaire seeks the opinions of Middle and Top Management levels along with professionals’ about the ABC system. As a result, the employees’ opinions were of no relevance or interest to the study. Other studies conducted abroad held almost the same number of respondents even in countries that are much larger than Lebanon. So, the number of the respondents might create some limitations to the study. Another limitation is the location of the companies surveyed. The study was supposed to represent Lebanon as a whole; however, the companies surveyed were all located in Beirut. The logic for restricting the survey solely to Beirut is that the largest firms and the multinational companies are located in the Capital. Consequently, and following the logic, if the leading companies that have the sufficient knowledge, resources and capabilities to implement the ABC system did not apply it, the smaller firms won’t do it for sure. So, we relied on the market leaders’ opinions concerning the topic under study.
Chapter II

Prior Studies

A. Literature Review

The Need for the ABC system:

Companies have neglected the importance of applying the ABC system in their accounting departments and the benefits they can derive of it. Companies need to understand that the accounting information they generate is a measurement tool for their performance and profitability, and “accounting is no more only recording financial transactions for organizations” (Hardan & Shantawi, 2013).

And as companies are striving currently to survive in a globally competitive environment to retain their market share, they have to search for, assess and implement any tool with the purpose of improving their performance (Maiga & Jacobs, 2006). Activity Based Costing (ABC) system is in fact an impressive methodology for costs allocations to ensure that efficiency is achieved while preserving the quality of output served. Thus, the resulting managerial decisions will be more accurate, informed and relevant. This is true if compared to traditional costing, where the latter assigns irrationally the costs to products or services even if these costs are not linked in one way or another to the cost object. Eventually, products and services will bare irrelevant costs,
resulting in deviated financial information and misguided decision making. The traditional costing system main drawback is that it ignores environmental changes and arising competition threatening operational success (Kaplan, 2006). According to Yapa and Kongchan (2012), the most triggering factor to implement the ABC system is competition. For business companies, no other factor better than competition can influence them the most to successfully adopt the ABC system.

Partovi (1991) developed, through experimentation, an innovated ABC model combined with Saaty’s Analytical Hierarchy Process. He concluded that using this complex system contributes to a better coordination of activities parallel with realizing organizational strategic goals. His model published in the article “An analytic hierarchy approach to activity based costing system” organized several overhead cost pools instead of few ones and referred to managers’ experiential judgment in cases of data shortage. His system will definitely assist business managers in deciding about the implementation of ABC system as they can determine its benefits before actual application.

Merserau (1999) has also presented another proof on the effectiveness of ABC application in the banking sector. His research, “Controlling cost of plastic”, demonstrated that the most effective and strategic measurement tool of cost of service delivery is the ABC system.

If we referred to another case, the Siman-e-fars company, a study by Shekari (2000) of how to increase optimization through the ABC system, we conclude that the proposed model, when applied in the service activity center should eliminate the unnecessary activities; in other words, the activities that have no added value to the service provided
will be removed. As a result, it would increase both, the center’s yield and the company’s profitability.

The study of Anvari and Rezayat (2007) was conducted in Tosee-y-Saderat Bank as a comparison between ABC system and traditional system for costing the non-profit deposits. The study concluded that a considerably significant difference existed between the calculations of the loans and deposits under both the traditional and the ABC system, tending favorably to the side of the ABC system (Sarokolaei, Ebrati, Khanghah, & Ebrati, 2012).

Many studies have been conducted to reflect the rates of adoption of the ABC system that showed low rates across the world. What organizes and shapes the relationship between the factors of propagation and those of the application of the ABC system have been frequently the concern and interest of many researchers.

The ABC system is an innovated system. And a managerial innovation as defined by Moisdon (1997) is a program or technique applicable mainly in the organization and should lead to modifications in the location, the quality, and the quantity of information provided and needed for decision making. So, as Moalla (2007) has mentioned in her articles: “the ABC system permits enriching the decision making process with the new interpretation of the same old fashioned ideas”. She also stated that many studies have proven the benefits resulting from the implementation of the ABC system on the characteristics of the information received (McGowan, 1998), on the decision making process (Shim, 1996), on the satisfaction of the users of information (Swenson, 1995) and on the improved financial performance (Zéghal and Bouchekoua, 2000).
Chea (2011) had a more profound definition of the ABC system, as being a tool of managing quality of costs and of measuring and evaluating the performance of the processes, products, and resources. He considered it as “the horizontal or cross-functional cost view” that provides management with more insight on factual data related to expenditures and viability of every cost object or lines of activities, as also denoted by Narong (2009).

Narong (2009) pointed to the idea that managers have been suffering with the traditional costing system due to the fact that it’s not an appropriate system for decision-making process even if it works from a reporting perspective. The traditional costing system as per Chea (2011) is “incomplete and unprocessed” in a way that distorts the allocation of overhead costs, resulting in an ineffective structure for evaluating expenditures. These deficiencies can be corrected and improved by the ABC system which exposes managers to more truthful costs (Chea, 2011).

When the traditional system was first introduced, the labor costs accounted for the greatest percentage of the total costs. Nowadays, however, labor costs tend to be more fixed than variable and the overhead costs are now taking the major proportion of the total costs. Every activity contributing to the delivery of services or sales of products incurs indirect costs; in some cases, these indirect costs contribute to the acquisition of capacity needed to complete the process of activities (Gering, 1999). ABC system is one of the systems that will support decision makers by displaying the real patterns and behaviors of costs and resources, as also proven by Sheu, Chen and Kovar (2003).
Through ABC analysis, managers can divide their businesses into a set of lines and identify the activities related to every line, and the participation of every activity to the revenues and expenses. So, a deep analysis of the linkage of different activities assists managers in determining where exactly to improve and take corrective actions (Cooper and Kaplan, 1999).

Arguments supporting the ABC system

In their study of the impact of the ABC system on Jordanian telecom companies’ financial performance, Hardan and Shantawi (2013) set the objectives of measuring the contribution of the ABC system to profitability’s growth of these service companies, assessing the infrastructure installed by these companies and analyzing any reason for not applying the system. The results reflected a positive connection between the implementation of the ABC system and the reduction in expenses. They also found that telecom companies actually have the required infrastructure to apply the ABC system. (Hardan & Shantawi, 2013)

Additional factors had also their impact on the ABC application, summarized mainly in organizational structure and culture, technology and strategy represented by top management (Yapa & Kongchan, 2012). And as facts have shown, steel and iron companies in Jordan avoided applying the ABC system because of two main reasons: the high costs of applying it and the top management belief of its irrelevance (Al-Refa’ee, 2012). However, whenever high level management fully supports the application of the ABC system and the employees within the organization support in
their turn the ABC application, the system can really bring significant improvements to
the service industry companies as shown by Chea (2011).

Soin, Seal, and Cullen (2002) undertook a study about the tendency of organizations to
apply the ABC system. This research was held at a multinational English bank, and
discussed the degree and type of change that is mostly associated with the acceptance or
rejection of the ABC system. They deduced that obstacles for not applying the ABC
system mainly reside in the existence for a need to change and the strength of the
“organizational routines” (Soin et al. 2002).

And when they mentioned change, they referred more to the revolutionary change than
to the gradual, which means that the application of the ABC is a one-step movement that
turns around the whole concepts used at work. Consequently, the resistance to such
revolutionary change is way higher than that of the gradual change (Sarokolaei et al.,
2012)

Arab and Naseri (2003) improved the cost calculations methods and techniques used in
Refah bank, the central bank of Tehran, in costing bank deposits covering the
application of a two-dimensions system rather than the one-dimension (in other words
the ABC system). The procedure they followed consisted of assigning first the costs to
activities and second from activities to deposits. The improved calculation technique
proved to have a lower deviation from the expected figures than the one-dimension
system.

In the study undertook in China in an electrics company regarding the factors behind a
successful implementation of the ABC system and covering the period from 2001 to
2005, Liu and Pan (2007) reached a conclusion that top management was in fact considered a very motivating key factor for the success of applying the ABC system in this organization. “Additionally”, according to Sarokolaei et al. (2012), “the culture in Fuji company entails the reductive stimulus in management innovation (for example, economic value-added, balanced credit cards and six sigma) and hierarchical ordering of the relationship structure along with the active participation of scholars is considered to be an important factor in achieving a high spread level of this concept of accounting in the organization”. Their study began opposing prior studies present back at that time about the “internal resistance” against the application of the ABC system through offering a new perspective in a certain way.

A diverging study was of Yereli (2009); this study has been a little bit different than the other studies because it was conducted in a Turkish university hospital comparing the traditional system to the ABC system. Calculation for surgery costs were performed under both systems. The traditional system revealed that one surgery’s costs ranged between $965 and $1,053. However, under the ABC system, the costs ranged between $535 and $599. These factual differences led Yereli (2009) to deduce that the ABC system is more dynamic under careful supervision to provide more accurate data that will definitely enhance the strategic decision making and budgeting (Yereli, 2009).

Sarokolaei et al. (2012) found regarding the difference in calculations that might exist from switching into the ABC system, that 3 hypotheses out of 5, considering the significance of such differences were approved. This means that the ABC system is better at calculating the deposits’ costs even after modifying the interest rates and other variables affecting the costs of deposits.
The results of all studies have proven that contingency theory which implies that the environment and the organizational settings in which a company operates affect greatly the way its control systems are designed and applied remains insufficient to justify the application or the rejection of the ABC system. These studies confirmed that companies cannot decide whether to apply the ABC system regardless of the environmental and social surroundings (Fei and Isa, 2010).

Malmi (1999) and others have considered the active factors favoring the propagation of the ABC system. In the same track, Walley, Blenkinsop & Duberley (1994) conducted a survey on 20 companies in the United Kingdom. The data collected revealed that a relation exists between the managers’ style and the concept of accounting system applied. The managing owners use the information as a source of strength and thus, prefer to conserve the confidential aspect of financial information with no sophisticated calculations and which can be sufficiently gathered through the use of simple, traditional accounting systems. These systems are rarely changed or updated with time.

Moalla (2007) has tried to investigate the nature of mechanisms influencing the application or rejection of the ABC system in Tunisia. Its main purpose was to detect and analyze the roles of different factors interfering in the propagation, adoption and rejection of the ABC system. Regarding the factors behind not applying the ABC system, Moalla (2007) has interviewed the respondents and concluded that beside the ignorance of the ABC system, the satisfaction from the existing accounting system, the problems related to applying ABC, complexity of the system, companies’ other considerations and occupations, and the rejection and non-support from the top management, all have a significant effect on adopting the ABC system. According to
statistics, 40% of the respondents who did not adopt the ABC system stated that their current accounting system functions very well. Thus, the satisfaction of decision makers is considered as the most important motive for switching into the ABC system or not.

As much important as the satisfaction of entrepreneurs, the other considerations or issues of the company can also hinder the decision to adopt the ABC system. Companies consider that resolving technical problems rates a priority over analytical calculations problems. If ranked by importance, also the insufficiency of financial resources and the high cost associated with the application of ABC affect heavily the adoption of this system. Then, comes the other reasons already mentioned above in addition to decision makers’ resistance to change (Moalla, 2007).

Askarany, Smith, and Yazdifar (2007) have found a transparent relationship between the changes occurring in manufacturers and the diffusion of ABC system. Some researchers thought that firm’s satisfaction of its current system can be a significant variable affecting the adoption of management accounting practices (MAP) including the ABC system. In general, the success or failure of any MAP including the ABC system can be deduced from the adoption rates, because companies can’t keep applying MAP unless they were reaping relevant benefits. An interesting study by Langfield-Smith and Chenhall in Australia (1998) revealed that most of the surveyed companies would adopt new MAPs like the ABC.

In addition, according to Sulaiman and Mitchell (2005), companies have experienced reductions in their costs subsequent to the design and application of a new MAP like the
ABC system, which should be considered as an economic motive to companies as pointed by Bjørnenak (1997).

For a company to risk and change its accounting system and adopt a new MAP, it must expect certain benefits such an increase in the effectiveness of its operations as concluded by Granlund and Lukka (1998). Changes in MAP are rarely considered because they tend to shake the stability already established by the routines of their current accounting system. This stability creates more comfort and adaptability for the upper management to respond effectively to any external condition (Greenwood & Hinings, 1996).

Regarding the MAP applications in the Arab world, no sufficient research was conducted thus, underestimating its significant contribution to this world’s economy. In a study undertaken by Hofstede (1980) in many Arab countries including Lebanon, he proved that religion greatly affects people’s lives as well as their business operations and consumption behaviors. So, culture of the country imposes certain traits on the culture of the organization. The Arab world enjoys a culture of “wide power distance, strong uncertainty avoidance, and low individualism” (Joshi, Bremser, Deshmukh & Kumar, 2011). In addition, the autocratic decision making along with the above mentioned traits contribute into making companies of the Arab world less tolerant into risks and changes, the reason for avoiding adopting new techniques (Joshi et al., 2011).

The survey of Joshi et al. (2011) asked about the extent of adoption of an MAP and its success rate based on Likert scale, in an attempt to investigate the relationship between the number of employees at the company and their experience regarding the decision to
adopt some of the MAPs including the ABC system. The results showed that out of the 57 surveyed companies in the gulf region, only 13 companies applied the ABC system out of which only 3 reported a successful implementation. The companies who avoided adopting the ABC system among other MAPs reported that the most significant reasons behind their reluctance are their satisfaction with their current systems, the difficulty to change the majority of their models, the high costs of implementing a new MAP like the ABC system, and finally, their perceptions that resulting benefits won’t justify the high costs of adoption (Joshi et al., 2011).

As per Burns (2000), organizational power and politics considerations also have some major effect on the change of MAPs which reveals the possibility of resistance. As a result, Joshi et al. (2011) concluded that companies tend to keep using the traditional models instead of updating to the newer and recent systems. The respondents encountered by using MAPs, stated that benefits following their application included “improvement in the quality and speed of information and decision making, improvement in monitoring and controlling of performance, and better measures of profitability levels” and the drawbacks resumed in “time to implementation, implementing change, and the need for specialized staff” (Joshi et al., 2011).

In the Middle East, the companies are witnessing a transfer into international ventures and large scale firms which urges the need to improve the competitiveness of the Arab world companies by referring to and adopting relevant and sophisticated MAPs. A surprising fact regarding the standard costing application is that it still finds a wide spread in some countries like UAE, UK and Malaysia, in spite of the claims stating that it is no more relevant to companies (Joshi et al., 2011).
Some of these claims refer to Richard Fleischman and Thomas Tyson (1998) who announced that traditional costing application is no more appropriate for construction and operations. Even Don Hansen and Maryanne Mowen (2002) have considered the traditional costing as “dysfunctional”; in the same track, Mike Lucas (1997) viewed it as an obsolete material questioning the usefulness behind teaching it in colleges and universities for the accounting majors.

These critics have built the motive for the companies to follow more advanced costing systems like the ABC system instead of the traditional costing. However, regardless of all professionals’ opinions, many experts still believe in the effectiveness of the traditional system basing their belief on the fact that it is still used widely around the world.

Marie, Cheffi, Louis, and Rao (2010), in their article published in Management Accounting magazine, showed that the study conducted by Guilding, Lamminmaki and Drury (1998), revealed an application of the traditional costing by 76% of the 303 accountants in UK and 73% of the 85 finance and accounting analysts in New Zealand.

Moreover, more than half of the managers of companies surveyed as adopting traditional costing system have reported their satisfaction with this system at the level of decision making and cost control. Thus, companies prefer to alter the existing costing systems into newer systems, in a way to match their needs and specifications without abandoning it. The study undertaken by Marie et al. (2010) surveyed 100 companies out of which 43 companies belong to the service sector. One of the objectives the study sought was the persistence of the application of the ABC system in Dubai and why companies would
stick to it. The results were actually shocking where 77% of the manufacturing firms applied the traditional system while in the service industry only 39% implemented it. Manufacturing sector cared mostly about the cost functions like inventories, control and performance whereas for the service firms, budgeting embraced the greatest interest and focus. As a result, in Dubai, the production sector implements more the standard costing than the service industry. Of course for the findings to be accurate and relevant, the related costing standards should reflect the “past performance” and the “expected future performance” (Marie et al., 2010)

According to Marie et al. (2010), companies are expected to assess and evaluate their cost standards continuously to stay updated to and informed about the changing environment. However, half of the firms surveyed barely conduct semiannual revision and reviews of their costing systems. Marie et al. (2010) could eventually reach the conclusion that almost 80% of the production industry in Dubai compared to the 40% of the service sector applies the standard costing.

**Factual Interpretation that cannot be denied:**

These remarkable results deny the claim that ABC system and other systems have diminished the value of standard costing for most of firms regardless of their size, industry, etc. The flexibility of the standard costing along with the low cost and ease of use constitute a sufficient reason for managers to adopt the system. Sometimes, companies would combine the standard system with other integrated systems instead of changing the whole system.
To go further in our analysis, the ABC system provides a profitability comparison among different lines or customers, reaching a decision on what are or who are the most powerful tools or customers for the firm. Because the ABC system requires every time that all activities involved in delivering the service along with their cost drivers to be recognized, maybe, managers view it as a hard-to-apply system. But at the same level, completing this task will assist companies in benchmarking operational evaluations at both levels: activity and service. When the benefits reaped are resumed in time, financing, efficiency and improvement at the quality level, managers must think twice before refuting the application of the ABC system (Gering, 1999).

Critics of the ABC system highlight the point that ABC does not reflect the reliable impact of decisions taken on the business operational level in the short-term. In fact, the ABC system was never intended for short term decisions. These critics have missed the real purpose of the ABC system, which lies in the strategic analysis of the operations (Turner, 2005).

Before discussing how Chea (2011) described the ABC system in service companies, we have to define the structure of service organizations. Hussain and Gunasekaran (2001) divided the system of production in service firms into completely invisible part and a “line of visibility”. The former is composed of all the support systems that a company might have for all of its functions, including the connection with its clients. But the visible part might not be always visible to customers interacting with the firm or receiving the service. Chea (2011) has referred to Cook, Grove, and Coburn (2000) to mention that “the goal of the ABC system is to measure and then price out all the resources used for activities that generate the production of goods and services for
customers”, given that resources in this context include the ones needed for the direct activities generating the services and for the support (indirect) activities. Many service firms like the financial institutions have linked the expenses they incurred to their offered products. Such comparison would exemplify how the expenses of the production process emerge from the quantity and type of goods sold. These expenses are depending on the satisfaction of those (customers) who received the goods (service or products), and thus, fluctuate with satisfaction. Before using the ABC analysis, every department must examine its own combination of expenses and identify the forces that drive the demand out from this specific department. As a result, departmental demand is quantified according to its structure (Hussain and Gunasekaran, 2001).

The most important goal to be achieved from such analysis is “to obtain the unit cost for processing transactions from products and customers” (Chea, 2011).

Because the ABC system was first anchored in manufacturing companies, critics believe it’s not useful to be applied in the service sector. However, Clarke and Mullins (2001) say that service companies just like other industries face similar interacting environmental forces that always necessitate cost improvements to persist in the market. Customers today are reporting a higher quality of services which requires with the existence of many rivals to lower the earned profits. Thus, learning how to decrease the service cost will build for companies a stronger bridge to success, delivering the most favorite service to customers at the lowest cost (Chea, 2011).

By identifying the activities with no added value, customers’ profitability breakdown would certainly improve. Clarke and Mullins (2001) reply to critics of the ABC who
claim that the system is not appropriate for internal reporting purposes that this argument is no more relevant because service sector lacks the “stock valuation consideration” (Chea, 2011).

As a result, firms can increase their profitability by understanding well the markets in which they operate, and by modifying their cost management accordingly (Hussain and Gunasekaran, 2001).

To elaborate more on the costs of service firms, labor costs make up the majority of total expenses, compared to the overhead costs that are also incurred while performing the services. These costs should be easily traced to the service performed. Introducing the ABC system can actually eliminate a common fallacy spread in the service industry: some firms believe that customers might be consuming the same amount of resources. Following such assumption would be totally irrelevant as profits resulting from every service rendered differ relatively. And it would be significantly important to allocate to every customer the actual share of the costs incurred allowing the firm to deduce a relevant customer profitability analysis. Consequent to the application of this fallacy, the prices charged to customers rarely mirror the costs incurred for every customer, and the profitable customers hinder the unprofitable ones leading management to mistakenly evaluate customers. The ABC system must enable the management to closely and more accurately evaluate customers reaching a customer profitability profile (Davis & Darling, 1996) & (Chea, 2011).

Chea (2011) in his study about the application of the ABC system in the service industry provided real life examples of many service institutions’ experience with the system,
specially the financial firms. The following examples present the benefits resulting from the application of ABC:

- A large regional bank in U.S.A, through the ABC analysis, became more capable to address internal and strategic pricing (Chea, 2011).

- Another company, a global insurance company, applied the ABC system for taxation objectives, more specifically: “to determine allocation methodology for external transfer pricing purposes” (Chea, 2011). The result was a better cost-benefit relationship of the services rendered to overseas affiliates, where the costs were measured or recorded according to the benefits earned from every recipient. Eventually, the effective taxing rate was lowered.

- At a major investment bank at USA, the ABC implementation was also driven by internal transfer pricing and strategic decision making motives. The bank needed to identify the profitable activities, products, and markets; the ABC system assisted the bank in improving significantly the internal transfer pricing due to some underpricing that was formerly assigned to some business units (Chea, 2011).

- Health span transportation service also at USA has eliminated idle time and idle resources through the ABC contribution to the data collection that resulted in improved efficiency and increased profitability (Chea, 2011).

- In England, at the largest electricity utility company, the ABC data focused mainly on what customers required and how responsive the company is to its market. Data collected revealed what level of quality and validity customers
actually demand and how performance costs are compared to rivals’ (Chea, 2011).

- An automatic retailer in Illinois, USA, undertook a pilot testing on the ABC system in the company, and detected that many improvements can be brought in by its implementation. One of these improvements would be identifying the non-added value activities that need to be terminated. Moreover, measures for performance and behaviors of different activities were established according to data about cost drivers (Clarke & Mullins, 2001).

An interesting subject that will be discussed in the next part would be how communicating the ABC system to employees and all levels of the organization, even to the organization itself, is a relevant factor for adopting the ABC system.

**Theories behind the spread of the ABC system:**

Malmi (1999), in his studies on the ABC system spread, relied on Abrahamson’s four theoretical perspectives. The first one is the efficient choice, which means that the company will apply the ABC system based on a rationally economic logic. It is the most useful way for costing products and services. The second perspective is the forced selection. It means that the company is obliged for a certain defined reason to apply it. It can be due to top management orders, type of products or services offered or operational mandates (as per laws or leagues)… The third option is the mode effect: the application of ABC system is related to its being an innovated system; it’s well reputable to apply it. The fourth option is imitation; the company would implement ABC parallel to its rivals in the market. Malmi (1999) has designed a propagation curve for the application of the
ABC system in Finland for a period of 10 years. The curve was in fact divided into three phases: the emergence, the take-off, and the stagnation (inactivity), which means that the factors affecting the application of the ABC system change with time. Consequently, at the emergence phase, the implementation of the ABC system is more justified as the efficient choice. Then, at the take-off phase, the implementation is more linked to the mode effect, and finally, at the stagnation phase, the adoption of ABC is more related to the mimic effect as well as to the efficient choice mode (Moalla, 2007).

Regarding the rejection to apply the ABC system, as per Walley et al (1994), the discomfort of top management to new systems and their resistance to change are among the most principal factors to the non-application of the ABC system. This fact was even identified by Argyris and Kaplan (1994), who state that regardless of the financial benefits brought by the ABC system, managers frequently resist the change which applies not only to the ABC system but also to any innovated system.

But first, we need to define what innovation means. According to Rogers (1995), it’s the perception of individuals concerned of the novelty degree of the item or idea. So, it’s a relative matter related to the personal judgments of people acting on positions affected by any new application.

Also the type of change brought in by the application of any new system reflects heavily on the acceptance or rejection of this system. For management, according to Foster and Ward (1994), a change is considered a radical one as in the case of implementation of the ABC system because the system when applied will provoke a change in the administrative procedure, and the organizational politics. It’s important to note that the
ABC system is not only a technical innovation but a managerial and a conceptual innovation. And we have previously mentioned how ABC as such innovation would be beneficial.

Even if the ABC system was accepted as an innovated system, communicating its application and results throughout the whole organization remains a critical factor of the adoption or rejection of the ABC system (Moalla, 2007).

However, the communication process has to include four elements according to Moalla (2007): the innovation itself (the ABC system), the trained personnel with related knowledge, personnel with no background on the system, and the communication channels connecting those who know about the innovation to those who don’t. These ways can in fact include internal and external ways like media. Bjørnenak (1997) actually concluded that these Medias have their role in spreading the principles of the ABC system, but in fact, do not exercise such significance on the implementation decision. Another consideration would be the fact that the encouragement for companies to apply the ABC system is optional, collective, or authoritarian. If we supposed that the collective and the optional choices take into consideration the will of the company to apply the system, the authoritarian choice imposed by holding companies doesn’t. Jones (1985) was actually the first to identify the real pressure of holding companies on the subsidiary companies to apply the ABC system. A shocking study by Walley et al (1994) surveying 20 enterprises deduced that 2 organizations have adopted the ABC system as a response to their parent company. This fact was further approved by Ballas and Venieris (1996) who surveyed 14 organizations applying the ABC system and found that 4 were influenced by their multinational holding companies.
Eventually, these studies have proven the importance of the influence played by the holding company to apply the ABC system at the subsidiaries’ level.

Regarding the four perspectives that Abrahamson (1991) had talked and that we have mentioned shortly previously, they depend according to Chea (2011) on two main points: if the decision makers inside or outside the organizations determine the adoption or refusal of the ABC system and if the process of imitation determine or not the application of the ABC system.

- The choice effect: companies independently and rationally choose applying the ABC system driven by the efficiency objectives (decision makers from the inside decide on the application and the imitation is not influencing).

- The forced selection: entities like governmental institutions exercise sufficient force to determine which innovations and techniques, companies must adopt. So, companies’ decision to undertake the ABC system is not affected by management’s motivation but strictly as obedience to external parties (yet, here the imitation is excluded).

- The mode effect: companies choose deliberately to apply the ABC system when influenced by organizations like consultancy, universities and mass media, referred to as: companies fixing the mode (imitation plays a role in motivating companies).

- The imitation effect: studies regarding the diffusion of any new innovation have revealed that the decision makers don’t evaluate it based on scientific studies and its proven consequences. However, they rely more on subjective
criteria like the evaluations and feedback provided by those who already applied it. As the imitation determines the adoption of the ABC system, it’s considered as one of the important factors for the ABC system execution. Imitation is different from the mode effect for in the former, organizations are supposed to imitate the organizations adopting the system rather than being influenced by organizations fixing the mode.

The study conducted by Moalla (2007) on 80 enterprises has reached the following results regarding the factors influencing the ABC diffusion in Tunisia. First, the study found that university is considered as the first important factor in spreading information about the ABC system, followed by conferences and seminars: 57 respondents knew about ABC from university and 26 from seminars. So, when it comes to the phase of recognizing the ABC system, the interpersonal channels’ effect has outweighed that of mass media. Same conclusion was found by ChongruKsut (2002) in Thailand. Moreover, regarding the effect of the holding companies on subsidiaries’ adoption of ABC system, results have confirmed that no relation exists between adopting ABC and being a subsidiary of an adopted mother company of ABC. In contrast, the subsidiaries adopt the ABC system exactly as independent companies do. Holding companies can influence its subsidiaries to adopt ABC but being an independent company signifies applying ABC less than a subsidiary is no more a right hypothesis.

Wegmann’s study (2010) tried to show how the ABC system in its newly developed versions (like customer driven-ABC and benchmarking ABC) can interfere in the “strategic approach of the management accounting” (SMA) (Wegmann, 2010) and thus, how managers use it as an appropriate tool to run the strategy. The features of the ABC
system must assist in analyzing the organizational architecture in an attempt to identifying “the link between operational and strategic management” (Wegmann, 2010).

Johnson and Kaplan (1987) have introduced the rationales of applying strategic management tools like the ABC system as related to “the evolution of the environment” (Wegmann, 2010) which is described as 3 stages: the stable phase in which the future is foreseeable, the unstable phase where it’s difficult to predict, and the very turbulent phase where nothing is predictable.

Moreover, for Wegmann (2010), the complexity of the organization and the organizational strategies drove the ABC system to integrate with the stages of implementation of the firm’s strategy in the process of reaching the firm’s ultimate goals. Wegmann’s research objective (2010) was to determine how the ABC system is integrated in every stage of the strategic process leading to goals’ achievement. Wegmann (2010) tried to give the ABC system a more refined definition as a system that tends to transfer more indirect costs into direct ones, increasing the number of activity pools or cost centers.

Chea (2011) identified the steps that must be taken by an entity to be ready to apply the ABC system. The first one is to form a cross-functional team. Then, develop the cost objectives which need to have collected information about. Later, determine the homogenous activities sharing similar functions or jobs, and the cost driver for every activity. Finally, allocate costs already determined to cost objects. Probably, if one of these steps was evaluated by the company as difficult to apply, managers would be reluctant about applying the ABC in the first place (Chea, 2011).
Based on the above mentioned findings of the prior studies, we can conclude the following:

The advocates of the ABC system do not ignore its limitations neither do they overwhelm them. Chea (2011) admits that the ABC system is subject to some issues like top management support or reluctance, the difficulty of determining the cost pools and cost drivers, and the availability of time and financial resources needed. Some companies even find the ABC system as a complex system that will not meet the specific needs of the firm; especially that the ABC system is of greater use when the firm operates at a significant number of activities and cost factors as identified by Clarke and Mullins (2001) & (Chea, 2011).

For more effective results, the ABC system must become more as a performance-focused system. This type of ABC system operates similarly as the usual system but it’s more related to performance control and measures, and focuses on the actual resources committed to the completion of the activity. This approach outweighs the usual ABC as it’s more flexible where labor costs should not be the mostly chosen cost driver. It’s based on actual and objective information sets collected by internal information systems and any further needed data can be directly imported from corresponding sources like employees (Namazi, 2009).

Another advanced approach that can be greatly applied at the service firms as well as at manufacturing firms is the combination of ABC and EVA (economic value added). EVA is a criterion for the performance measurement of the firm. It equals to economic
profit minus capital costs (equity and debt). Such combinations will repair the shortcoming of the ABC system that acquires capital costs and underestimates service costs, leading to a more complete picture of managing costs and evaluating performance. The ABC-EVA integrated system benefits can be resumed as follows: the capital costs will be distributed into activity pools and thus, the resulting costs will comprehensively include the incurred costs related to the operations. As a result, the obtained cost data is more comprehensive than ever, without neglecting a single cost of the company (Hu, 2010).

Due to the increased competition, companies must offer superior quality of service at lower prices as per consumers’ request. Companies cannot trust solely the notion of “brand loyalty” (Stapleton, Pati, Beach, & Julmanichoti, 2004) anymore as switching buying behaviors is more driven by competitive quality and price offers. Similarly, the technological advances made firms realize that they cannot rely anymore on the traditional costing system for decision making process, the fact that settled the popularity of the ABC system (Stapleton et al., 2004). ABC posits on assigning actual costs to consumers in a better way by providing a more effective cost and time information. Managers have to focus their analysis on really important details rather than concentrating on details that won’t improve their decision making. For a firm to start applying the ABC system, it should prepare its internal and external customers to such process, mainly employees. This preparation is an essential step for the implementation to be successful; it must acquire the support of all units and levels within the organization within a specified and appropriate time frame (Stapleton et al., 2004).
B. Hypotheses

Based upon the information provided earlier in the literature part, and according to the research problem under study, and by referencing to related studies, the following hypotheses to be tested can be deduced:

\textit{H1}: The reluctance of managers to apply the ABC system is significantly related to the management’s support.

\textit{H2}: The reluctance of managers to apply the ABC system is significantly related to the lack of training of employees.

\textit{H3}: The reluctance of managers to apply the ABC system is significantly related to top management’s perspective of the system’s high consumption of time and financial resources.

\textit{H4}: The reluctance of managers to apply the ABC system is significantly related to the difficulty of collecting data.

\textit{H5}: The reluctance of managers to apply the ABC system is significantly related to the necessity to change internal culture and to the commitment of controllers.
Chapter III

Methodology

A. Definition of variables

The measured variables were derived from the hypotheses, and were inserted into the questionnaires in order for the data collected to be relevant. They represent the factors related to the reluctance of decision makers to apply the ABC system (parallel to prior studies): the years of experience, the frequency and type of training given to personnel, the complexity of the system, the need for internal culture’s change, the management’s support of the ABC system, the consumption of time and financial resources, the commitment of controllers and employees, and the difficulty of collecting data.

B. Measurement Techniques

Two types of questionnaires were prepared: questionnaire A was distributed to the users of the ABC system, and questionnaire B to the non-users of the system.

Questionnaire A was designed by referring to the study undertaken by Lucas Taba (2005) in his study “Measuring the Successful Implementation of Activity Based Costing (ABC) in the South African Post Office”. Some points from the original questionnaire were eliminated when deemed irrelevant to the variables measured and the hypotheses tested. Questionnaire A was divided into four parts: the 1st part identifies the demographical data
of the respondent; the 2nd part identifies the grounds for the success of the ABC implementation; the 3rd part identifies the benefits gained subsequent to the ABC implementation; and the 4th part identifies the problems encountered during the ABC implementation.

Questionnaire B was designed also by referring to the survey sample undertaken by Nguyen Hoa (2010) in his study “The impact and importance of Activity Based Costing on financial performance of manufacturing firm”, where the original questionnaire was modified to match the requirements of the variables measured and the hypotheses tested by removing the irrelevant points. It was divided into five sections: the 1st one identifies the demographical data; the 2nd one identifies the respondent’s knowledge about the ABC system; the 3rd section identifies the readiness of the company to apply the ABC system (in the respondent’s opinion); the 4th section identifies the reasons for not applying the ABC system so far; and the 5th section identifies the improvements that can be brought in from the implementation of the ABC system.

The questionnaires were structured not to take more than 10 minutes from the respondents’ time to facilitate the collection stage and to reduce refusals to participate in the survey.

Interviews with 5 out of the 35 respondents were held to collect more elaborated answers about companies’ view toward the application of the ABC system along with interviewees’ personal opinions.
C. Sample

Convenient sampling was used in this study. Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher. The population was divided into 8 categories according to the industry: insurance, audit, banking, universities, hospitals, hotels, telecommunication, and accounting. The targeted segment should include the industries deemed to belong to the service sector in Lebanon (the scope of the study). 50 candidates were contacted and 35 respondents reacted to our study making the response rate considerably high (70%). The respondents included 2 major financial institutions (banks), 1 university hospital, 1 telecommunication company, 2 audit firms, 1 university, 1 insurance firm, 1 hotel, 4 accountants and 22 auditors. In addition, the firms were represented by their financial manager, the chief accountant, CFOs or the CEOs when available, otherwise, supervisors and seniors filled the survey.

D. Data Collection

The respondents were continuously followed up to ensure the maximum response rate through phone calling, sending emails and taking appointments. The questionnaires were sent by emails directly to the targeted audience, accompanied by a request for a 15 minutes interview.

Whenever possible, interviews were conducted at the same time the questionnaire was filled to guarantee the maximum collection of data, and to gather more weighted opinions and experiences of the respondents with the topic.

As a result, the data collected was qualitative and quantitative.
E. Statistical methods

Data were analyzed using the SPSS statistical program to identify the relations existing between the different sets of responses and weights. However, the qualitative data like interviews was not subject to such programs but corresponding interpretations will be provided as we go through analysis. Cross-tabs, chi-square and correlations tools, beside the independent sample t-tests were used to study the relationship between the independent variables (factors for not applying the ABC system) and the answers of the respondents (reluctance about applying the system).

For elaboration, we will proceed with the relevance of every factor and how the responses weighted every one of them.
Chapter IV

Findings Analysis and Discussion

Our analysis started by dividing the items of the questionnaire into four main categories to answer the following:

- whether the company suggested or not the ABC
- whether the executives would propose the application of the ABC system
- whether the company is ready or not to apply the ABC system
- what are the reasons prohibiting the company from applying the ABC system

Subsequently, cross-tabs, chi-square, correlations and independent sample t-tests were performed between categories and in some cases within the same category and the following results were concluded, given that the chosen level of confidence is 95% and the level of significance for statistical results is 5%:

- **Top management’s support:**

During the survey, the surprising fact was that management’s perspective towards the application of the ABC system was in contrary to what was expected beforehand. Respondents have definitely stated that the lack of management’s support was not a reason to evade adopting the ABC system and they have clearly pointed that management would not mind applying the ABC system in their companies if the finance department decided to do so, and established a budgeted plan for its implementation. Management has obviously the final decision to whether apply the ABC system or not.
As found in the survey, the finance department, or the budgeting and cost control departments, were themselves reluctant about the system. In fact, none of our respondents has actually made such proposal, except for one large financial institution (mentioned earlier in the analysis). This bank’s finance department advised the application of the ABC system but management did not accept such recommendation as it considered that earlier steps must be taken before reaching such advanced system.

While interviewing the deputy CFO of a famous bank, I had the chance to view the proposal made in February 2010, where the ABC system was suggested but the management modified the one-step process of ABC into a three stages process, where the ABC system comes lastly after two preparatory stages. Management believed that the ABC implementation requires beforehand certain period of time for staff and company to get ready for it; it cannot be directly adopted. However, the management is planning to reach the ABC stage within a time frame of 10 years (which is a long period with respect to the application of a system). Parallel to the mentioned financial institution, the project leader at the sole bank that tried the implementation of the ABC system explained how some managers did not accept the proposal of the system at first because they believed it’s more related to the manufacturing industry rather than the service industry. But once the plan was presented, the majority of management approved the system; they even approached it positively at the feedback stage.

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1 Detailed analysis will be provided later on regarding the experience of Bank X during the implementation of ABC system for a time period of 2.5 years.
Descriptive analysis for management support showed that 40% of the respondents agree.

Through cross tabulation with whether or not the ABC system has been proposed, the following results were obtained:

### Table 2: Cross-tabbing the proposal of executives of the ABC system to the management's support of the system

<table>
<thead>
<tr>
<th>Would you propose applying the ABC?</th>
<th>Management's support</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Agree: 12</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Disagree: 2</td>
<td>6</td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>21</td>
</tr>
</tbody>
</table>

### Table 3: Chi-square test of executives' proposal of the system and the management's support of the system

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.972a</td>
<td>1</td>
<td>.324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.331</td>
<td>1</td>
<td>.565</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>1.018</td>
<td>1</td>
<td>.313</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.431</td>
<td>.288</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.944</td>
<td>1</td>
<td>.331</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From statistics’ perspective, the results didn’t show a significant relationship (whether with proposing or suggesting): 60% of the respondents didn’t believe that the ABC system application lacks management support. H1 is rejected at the 95% level of confidence.

- Employees’ training and knowledge:

As can be seen in the data analysis sets, 45% of the companies surveyed stated that their personnel and staff have sufficient knowledge and experience that would enable them to use the ABC system easily and quickly with a bit of supplementary training. However, the other half of the respondents claimed that their staffs do not hold the sufficient knowledge for such implementation. They consider that their employees would need an advanced and intensive training and guidance preceding the adoption of ABC system, not as a doubt in their workforce’s ability but because they believe that the system’s implementation necessitates such concentrated programs. They consider that the system is too complex and difficult to be applied in a short period of time. But what’s standing in the analysis, is the management’s perspective toward the difficulty of the ABC system. In other words, all companies admitted the fact that the ABC system is a more advanced system than other systems and its complexity creates reluctance about its application. Yet, only half of them state they are readily equipped at the human resource level to apply the system. As a result, assessment of the ABC difficulty is not objective as clearly concluded, as it reflects more the managers’ personal opinions based on predictions with the absence of accurate data on the real knowledgeable and intellectual readiness of employees. The Deputy CFO at a respectable bank in Beirut pointed to the importance of training employees ahead of time.
Employees knowledge and training

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
<td>45.7</td>
<td>45.7</td>
<td>45.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>19</td>
<td>54.3</td>
<td>54.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Descriptive Frequency for the employees’ training and knowledge factor

Descriptive analysis for the employees’ training and knowledge showed that 46% of the respondents agree. Through cross tabulation with whether or not the ABC system has been suggested, the following results were obtained:

<table>
<thead>
<tr>
<th>Ever suggested applying the ABC?</th>
<th>Agree</th>
<th>Disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>5</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>13</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>35</td>
</tr>
</tbody>
</table>

Table 5: Cross-tabbing the suggestion of the ABC system to the employees' training and knowledge

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.000a</td>
<td>1</td>
<td>.983</td>
<td>.983</td>
<td>.983</td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.000</td>
<td>1</td>
<td>.983</td>
<td>.983</td>
<td>.983</td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>.636</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.000</td>
<td>1</td>
<td>.984</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6: Chi-square test of the suggestion of the ABC system and the employees' training and knowledge
Statistically, no significant relationship exists between the reluctance to apply the ABC system (whether proposing or suggesting) and the lack of training of employees. H2 is rejected at the 95% level of confidence.

From another perspective, and while interviewing the chief financial officer at the University of Saint Joseph, he stated that employees’ training is not and should not be considered as an obstacle for the application of the ABC system. He considered that few sessions of seminars and in-depth focus of the ABC system would be sufficient for employees to understand it and start using it. And regarding the cooperation and involvement of other divisions and departments, the CFO had no doubt that such harmony and coordination can be quickly created among all parties involved in the implementation stage, especially the commitment that management and employees would show for the system. That was also the point of view of the project leader at Bank X; she explicitly stated that employees other than the ABC team had no single knowledge related to the system prior to the application, yet, that was not an obstacle for adopting the ABC system at a later stage. For her, employees’ training and knowledge about the ABC system should not be viewed as a hurdle for the implementation as such training can be later on provided to staffs and crews.

To investigate more on the findings that 50% of the respondents believe in their employees’ abilities, an analysis between the length of time a respondent spends with his/her company and the level of employees’ training and knowledge at company was conducted. Out of the 16 respondents who disagreed to the statement that employees’ training is an obstacle, 11 had time with company for less than 10 years.

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2 Deeper analysis regarding this reason will be provided in the corresponding paragraph.
The logical explanation for such finding could lie in the fact that the younger generation (those who have less time being hired by the company), believe more in the ability of their fellows and employees to learn and adapt quickly to any new implementation.

<table>
<thead>
<tr>
<th>Length of time with company</th>
<th>Employees knowledge and training</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>5 years to 10 years</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 7: Cross-tabbing the length of time an executive spends with company to the employees’ knowledge and training

- Financial controllers’ commitment and willingness:

Financial controllers, just like employees, have been used to a costing system that has been in place for a significant period of time. And switching into a totally different system that requires new adaptation and extra hard work and consideration will create doubt concerning employees’ acceptance and commitment to the new system, especially when the information collected by the system will be used for performance evaluation. Human by nature fear the change. And such change, even if it was gradual, will create some resistance that might become later on a source of frustration and an obstacle to the commitment needed for the success of the new system. The CEO at Deloitte & Touche, an international audit firm, considered that in his opinion, proposing the application of the ABC system depends on two main questions: First, is appropriate technology
available for such invention to be applied in place? And second, is employees’ behavior accurate enough for the implementation of the ABC system? An interesting subject to reflect on would be the employees’ behavior toward the ABC system. The CEO stated that the way employees react toward the ABC system and how much commitment they could show to the project should be under study as such dedication reveals an important factor toward the success of the ABC system following its implementation. The accuracy of the personnel’s behavior toward the new system is related to the commitment they might show later on. If personnel have claimed being open and willing to learn the new system’s application, shortcomings will begin to show right after its implementation. That is why the CEO emphasized during the interview on employees’ behavior and the accuracy of such behavior before considering the ABC system or any other newly applied system, knowing that the information collected by the system will be used for performance evaluation.

If we referred to the case of the sole financial institution that applied the ABC system, Bank X, the project manager expressed her disagreement when asked about the commitment shown by all divisions other than the accounting division. For her, the employees did not exhibit any dedication to the system. The ABC team did not enjoy a considerable cooperation and sincerity from the staff.

Almost 50% of the respondents stated that controllers will definitely show dedication to the ABC system application. However, the chi-square test showed a moderately significant relationship relating the suggestion of the ABC system to the presence of the commitment shown by controllers (even though not at the level of confidence of 95%; not true for the proposing of the ABC system). Actually, 14 respondents out of 24 whose
companies didn’t suggest the ABC system filed that the lack of dedication shown from controllers is a significant reason. H5 is so far approved at the 95% level of confidence.

| Financial controllers' willingness and commitment |
|------------------|------------------|------------------|------------------|
| Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Agree | 17 | 48.6 | 48.6 |
| | Disagree | 18 | 51.4 | 100.0 |
| Total | 35 | 100.0 | 100.0 |

Table 8: Descriptive Frequency for the financial controllers' willingness and commitment factor

Descriptive analysis for the financial controllers' willingness and commitment showed that 50% of the respondents agree. Through cross tabulation with whether or not the ABC system has been suggested, the following results were obtained:

| Crosstab |
|------------------|------------------|------------------|
| Ever suggested applying the ABC? | Financial controllers' willingness and commitment | Total |
| | Agree | Disagree | |
| Yes | 3 | 8 | 11 |
| No | 14 | 10 | 24 |
| Total | 17 | 18 | 35 |

Table 9: Cross-tabbing the suggestion of the ABC system to the financial controllers' willingness and commitment
<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>2.913</td>
<td>1</td>
<td>0.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>1.802</td>
<td>1</td>
<td>0.179</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>2.999</td>
<td>1</td>
<td>0.083</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td>2.999</td>
<td>1</td>
<td>0.083</td>
<td>.146</td>
<td>.089</td>
</tr>
<tr>
<td>Linear-by-Linear</td>
<td>2.830</td>
<td>1</td>
<td>0.093</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Table 10: Chi-square test of the suggestion of the ABC system to the financial controllers' willingness and commitment |

And, if we compared an executive proposal of the application of the system to the intensity of the dedication exhibited by executives, we find that about 51% of the 77% who would propose (not suggesting) applying the system agreed that their doubt regarding the commitment of their controllers is an issue to consider before applying the ABC system.

- Availability of financial and time resources:

The ABC system as previously mentioned requires significant budgeting at the financial level and at the time level. According to the opinion of the Deputy CFO of a well-known bank, ABC is a very detailed system that requires much of the employees’ and managers’ time. However, the project manager at bank X considered that managers might disregard time consumption on a new system as long as they believe in its efficiency and in its resulting benefits. And that was actually the response of half (50%) of the surveyed personnel who showed readiness for allocating sufficient financial and time resources for the ABC system as long as they perceive that its benefits outweigh its costs. Once the ABC system is suggested and accepted, allocating resources won’t be an
obstacle anymore as long as a sufficient study for budgeting is set on place. Resources come in the second place once the proposal of an innovated system has gained the approval of the top management.

### Availability of financial and time resources

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>16</td>
<td>45.7</td>
<td>45.7</td>
<td>45.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>19</td>
<td>54.3</td>
<td>54.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

**Table 11: Descriptive Frequency for the availability of financial and time resources factor**

Descriptive analysis for the availability of financial and time resources showed that 50% of the respondents agree. Through the cross tabulation with whether or not the ABC system has been suggested, the following results were obtained:

Actually, 14 respondents out of 24 whose companies didn’t suggest (same for proposal) the ABC system filed that the lack of needed resources is a significant reason.

### Crosstab

<table>
<thead>
<tr>
<th>Ever suggested applying the ABC?</th>
<th>Agree</th>
<th>Disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>2</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>35</td>
</tr>
</tbody>
</table>

**Table 12: Cross-tabbing the suggestion of the ABC system to the availability of financial and time resources**
Statistically, a strong significant relationship exists between the suggestions (also the proposal) of companies the ABC system and the availability of financial and time resources as shown in the table below. H3 is accepted at the 95% level of confidence.

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>Df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>4.900a</td>
<td>1</td>
<td>.027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correctionb</td>
<td>3.416</td>
<td>1</td>
<td>.065</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>5.231</td>
<td>1</td>
<td>.022</td>
<td></td>
<td>.035</td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.030</td>
<td>.030</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td></td>
<td></td>
<td></td>
<td>.029</td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13: Chi-square test of the suggestion of the ABC system to the availability of financial and time resources

An Interesting Link:

A noteworthy relation found during the analysis of data is the one existing between the availability of resources and the controllers’ willingness and commitment. During the interviews, respondents linked the availability of resources to the commitment shown by controllers, which induced the need of an analysis relating these two variables.

<table>
<thead>
<tr>
<th>Crosstab</th>
<th>Availability of financial and time resources</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Financial controllers' willingness and commitment</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 14: Cross-tabbing the financial controllers’ willingness and commitment to the availability of financial and time resources
<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>8.241$^a$</td>
<td>1</td>
<td>.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction$^b$</td>
<td>6.408</td>
<td>1</td>
<td>.011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>8.596</td>
<td>1</td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.007</td>
<td>.005</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>8.006</td>
<td>1</td>
<td>.005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15: Chi-Square test of the financial controllers’ willingness and commitment to the availability of financial and time resources

As shown in the table above, analysis reflected a significant relationship existing between the commitment of controllers and the availability of resources. The relationship is statistically proven to exist at the level of confidence of 95%. In fact, the finding can be proven by the following consideration: when top management devotes sufficient resources for the implementation of the ABC system, controllers will be more willing, motivated and dedicated to the system. Top management would be the ideal for employees to follow regarding the support for the system, thus, encouraging controllers in return to a certain extent to show similar commitment for the innovation.

- Collection of data about cost drivers:

Almost 89% of the respondents stated that collecting information about the cost drivers of the different cost pools is one of the main obstacles that prevented companies from applying the ABC system. Gathering data from the different departments or divisions and inquiring employees is a time consuming stage that companies are not willing to make.
### Difficulty of the data collection about cost drivers

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td>Agree</td>
<td>31</td>
<td>88.6</td>
<td>88.6</td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>4</td>
<td>11.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>35</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table 16: Descriptive Frequency for the difficulty of the data collection about cost driver factor**

By cross tabbing the difficulty of collecting the data to the suggestion of the ABC system, out of the 69% whose companies didn’t suggest the ABC system, 88% agreed that the collection of data stage is the most difficult part in applying the ABC system which adds obstacles to the decision making process. Yet, statistically, no significant relationship existed between the difficulty of collecting the data and the proposal or suggestion of the ABC system. H4 is rejected at the 95% level of confidence.

The case in here is similar to the case of the complexity factor. The collection stage of data was considered by most of respondents as difficult, yet, it won’t affect their choice of applying the system or not.

### Crosstab

<table>
<thead>
<tr>
<th>Difficulty of the data collection about cost drivers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Ever suggested applying the ABC?</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
</tr>
</tbody>
</table>

**Table 17: Cross-tabbing the suggestion of the ABC system to the availability of financial and time resources**
### Chi-Square Tests

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>.087a</td>
<td>1</td>
<td>.769</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction</td>
<td>.000</td>
<td>1</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>.090</td>
<td>1</td>
<td>.764</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>1.000</td>
<td>.628</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>.084</td>
<td>1</td>
<td>.772</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 18:** Chi-square test of the suggestion of the ABC system to the difficulty of the data collection about cost drivers

At bank X, for the project manager, visiting all branches and asking every single employee and branch manager about their work created some complications in the process. Moreover, the manager doubted the accuracy of information provided to the ABC team regarding personnel’s work. Collecting such amounts of information in her opinion required employees to dedicate a significant part of their time to provide assistance for the team, considered as a waste of the valuable work time. So, the difficulty in this process lies in three main points: the time consumed by the respondents to cope with the ABC team, the level of accuracy of data given by staffs, and the number of divisions, departments, branches or staffs from each data needs to be gathered. In case these factors existed simultaneously, top management would reconsider supporting the ABC system, which takes us back to the second factor discussed in our analysis. However, at the University of Saint Joseph, the CFO explained that this step won’t be a great difficulty anymore at the university because no more decentralization will be allowed at every faculty. The former case was that every faculty was independent financially and systematically. The university is now transforming into a more
centralized, integrated, comprehensive system that connects all faculties through a single ABC system, fully implemented, in order to obtain more in-depth analysis about the different costs incurred and revenues earned by every department.

- **Necessity to change internal culture:**

The ABC system as it creates by its implementation certain changes at the organizational level might also create some kind of resistance. As discussed earlier, the change would always be resisted by people; nevertheless, people would accept it as long as they feel comfortable with the new application.

Among my survey respondents, about 54% claimed that they don’t see the necessity to change internal culture as an obstacle for them to apply the ABC system. They deemed that the current system they are applying is similar to the ABC system in its fundamentals, and thus, it will not create resistance or a necessity to change the internal system. From another perspective, they believe in their employees’ ability to adapt and react adequately to any occurring change.

<table>
<thead>
<tr>
<th>Necessity to change internal culture</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agree</td>
<td>16</td>
<td>45.7</td>
<td>45.7</td>
<td>45.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>19</td>
<td>54.3</td>
<td>54.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>35</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

*Table 19: Descriptive Frequency for the necessity to change internal culture factor*

Statistically, the suggestion to apply the ABC system is significantly related to the necessity to change internal culture (same for proposal). The ABC system would be a
new system to begin working with and will certainly require the company to change its internal culture (even at the communication and reporting levels) to ensure full embrace and understanding of the newly applied system. H5 is now approved at the 95% level of confidence. Through the cross tabulation with whether or not the ABC system has been proposed, the following results were obtained:

<table>
<thead>
<tr>
<th>Would you propose applying the ABC?</th>
<th>Agree</th>
<th>Disagree</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>15</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>No</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>19</td>
<td>35</td>
</tr>
</tbody>
</table>

**Table 20: Cross-tabbing the proposal of executives of the ABC system to the necessity to change internal culture**

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>4.610</td>
<td>1</td>
<td>.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contingency Correction</td>
<td>3.038</td>
<td>1</td>
<td>.081</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>5.139</td>
<td>1</td>
<td>.023</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td></td>
<td>.047</td>
<td>.037</td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>4.478</td>
<td>1</td>
<td>.034</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 21: Chi-square test of the suggestion of the ABC system to the necessity to change internal culture**

After analyzing the significance of every variable to the reluctance of the decision makers to apply the ABC system, the overall significance of every category was tested against other categories and against individual variables. Scores were first calculated for
the readiness category and the hindrance factors category. For every category, the questions in the survey were determined. Then, the answers’ value of every respondent to every question within a specific category, either readiness or hindrance, were added up to reach the score total: Rdscore for the readiness score and Rescore for the hindrance reasons score.

Afterward, the t-tests were conducted to determine if the readiness and hindrance scores differ among those who did and did not suggest the ABC system. The results have actually shown a significant difference for the readiness category which means that the respondents who said yes to the suggestion are significantly more ready to the application. However, for the hindrance factors category, no statistical difference existed. It means that these factors do not actually influence the suggestion or not of the ABC system as respondents whether suggested or not the system recognize its complexity or collection of data.

<table>
<thead>
<tr>
<th>Group Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ever suggested applying the ABC?</td>
</tr>
<tr>
<td>Rdscore</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Rescore</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table 22: Independent sample t-test on the readiness score and hindrance reasons score to the suggestion of the ABC system- part 1
However, if tested against the proposal of the ABC system, the hindrance factors showed statistical difference whereas the readiness didn’t show mean difference. It implies that for executives who proposed or didn’t propose readiness score is the same. In other words, the hindrance factors not the company’s readiness affect the proposal of the executives of the ABC system. The average hindrance score is higher for those who didn’t propose it.

<table>
<thead>
<tr>
<th>Levene's Test for Equality of Variances</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Rdscore</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Rescore</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Table 23: Independent sample t-test on the readiness score and hindrance reasons score to the suggestion of the ABC system- part 2

Then, the same type of analysis was conducted for the overall readiness against every individual factor of the hindrance category. The results showed no statistical
significance at all for any factor verifying that the company being ready for the application is not affecting the factors that actually prohibit companies from applying the ABC system. In other words, whether the company is ready or not to apply the ABC system, the company’s perspective to any of the hindrance factors is not affected.

A noteworthy finding is the fact that when asked about the complexity of the system, all respondents have actually agreed that the ABC system is too complex in its structure and it won’t be easy to apply such program directly and without prior and sufficient preparation especially when the company is accustomed to some other, easier systems.

They viewed the ABC as hard to apply, complex to implement and difficult to put in place. They consider that they are satisfactorily adept with their current systems and they find it easy to implement and follow rather than going into a newly different system. At Bank X\(^3\), the sole institution that has applied the ABC system for a trial period of 2 years, the project manager (the interviewee) has also admitted that the system’s application has been extremely difficult considering two levels: the first one was the immensity of the layers existing at the bank whether, branches, sections, products, activities or personnel. Having such great amounts of data sources adds more difficulty to the process. The second level was the difficulty of acquiring the full cooperation and assistance from employees and staff crews at all levels and branches to provide the ABC project team with relevant, accurate and valid data that will be used in the implementation of the ABC system. In other words, companies recognize very well that the system is a very complex system whether they would apply it or not.

\(^3\) The bank preferred not to mention its name in the analysis and thus, we will be referring to it as Bank X during the rest of the analysis. The ABC implementation was considered as a project, and the interviewee was the project’s leader.
**Case of Bank X:**

Among all the respondents and on the national scale, only one service firm (financial institution) has applied the ABC system. It applied it five years ago for about two years. The project leader shared with us her experience along with the feedback resulting from the whole implementation. In analyzing the experience of this Bank and through the questionnaire filled by the sole firm that applied the ABC system in Lebanon, we can deduce the following:

- The bank stopped applying the system after two years and half which was the total period needed to fully apply the ABC system in all its layers. They didn’t proceed because obviously, it required so much time and effort than actually expected. The team was composed of four associates and had to visit every branch of the 73 branches to interview employees and branch managers. They had to collect huge amounts of data and then to analyze it all using Excel Spreadsheets. The team members had only basic knowledge about the system and claimed at first that the system relates only to manufacturing companies; so, they had to devote few months ahead to research about the whole topic, acknowledge the system for the whole bank so that people would understand how the ABC will be contributing to the bank, set a plan for its implementation and make sure that all members have the sufficient knowledge to undertake such mission.

They started by mapping the current structures and the current activities, determining what are the services and products of the bank, finding out how each unit and each department is contributing to the final output. Actually in the bank, the responsible department for the application of the system was the “organizational planning and
reengineering department” which function is to locate the gaps in the current functioning system of the bank and thus, works on finding more efficient solutions for the problems. The project leaders believed that some products were overpriced and testing must be conducted.

- The major risks that the team faced were:

  - The accuracy of the data collected from employees and staffs
  - The lack of technology used to analyze the data where they relied solely on Excel Workbooks which added some difficulties to the process
  - The shortage in the number of team members relatively to the great amount of information that needed to be collected

- The main problems that the bank encountered during the application were:

  - Resistance to change
  - High cost of implementing the ABC system
  - Reluctance from some employees
  - Software shortage
  - Difficulty in collecting data about the cost driver

- The benefits reaped by the bank subsequent to the implementation of the ABC system were:

  - More accurate service costs which somehow contributed to reducing costs
  - Better overhead cost allocation
  - Better service design and performance
  - Increase in profitability
  - Cost control improvement
Through the interview held, the leader asserted that the bank is heading now into a profitability analysis (customer-by-customer analysis), theoretically based on the ABC methodology; managers were satisfied with the good results that the ABC system brought in, where they understood the reasons behind pricing a service or a product.
Benefits Analysis:

The next part will aim to identify the motives that might encourage companies to apply the ABC system in an attempt to determine the real understanding of companies regarding the ABC system. By cross tabbing the suggestion of the ABC system to the benefits acquired, the following can be deduced:

- With respect to the accuracy of costs: a significant relationship exists implying that the accuracy that the ABC system can bring to the company is an important motive to apply.

<table>
<thead>
<tr>
<th>Crosstab</th>
<th>More accurate service costs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Ever suggested applying the ABC?</td>
<td>Yes</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>35</td>
</tr>
</tbody>
</table>

Table 24: Cross-tabbing the suggestion of the ABC system to the accurate service costs benefit

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
<th>Exact Sig. (2-sided)</th>
<th>Exact Sig. (1-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>3.978&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1</td>
<td>.046</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuity Correction&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.023</td>
<td>1</td>
<td>.155</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Likelihood Ratio</td>
<td>3.672</td>
<td>1</td>
<td>.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher's Exact Test</td>
<td></td>
<td></td>
<td>.082</td>
<td>.082</td>
<td></td>
</tr>
<tr>
<td>Linear-by-Linear Association</td>
<td>3.865</td>
<td>1</td>
<td>.049</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 25: Chi-Square of the suggestion of the ABC system to the accurate service costs benefit
- With respect to the accuracy of costs: a significant relationship exists implying that the accuracy that the ABC system can bring to the company is an important motive to apply.

<table>
<thead>
<tr>
<th>Crosstab</th>
<th>Better overhead cost allocation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>Ever suggested applying the ABC?</td>
<td>Yes</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>23</td>
</tr>
<tr>
<td>Total</td>
<td>31</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 26: Cross-tabbing the suggestion of the ABC system to the better overhead cost allocation benefit

<table>
<thead>
<tr>
<th>Chi-Square Tests</th>
<th>Value</th>
<th>df</th>
<th>Asymp. Sig. (2-sided)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Chi-Square</td>
<td>5.138</td>
<td>2</td>
<td>.077</td>
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<tr>
<td>Likelihood Ratio</td>
<td>5.398</td>
<td>2</td>
<td>.067</td>
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<tr>
<td>Linear-by-Linear Association</td>
<td>4.873</td>
<td>1</td>
<td>.027</td>
</tr>
<tr>
<td>N of Valid Cases</td>
<td>35</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 27: Chi-Square test of the suggestion of the ABC system to better overhead cost allocation benefit

- With respect to the accuracy of costs: a significant relationship exists implying that the accuracy that the ABC system can bring to the company is an important motive to apply.
As revealed in the analysis, companies recognize the benefits that can be reaped from the implementation of the ABC system. Yet only, 11 respondents suggested it. This reflects that companies believe in fact in the relevance and the importance of the ABC system to the firm. Consequently, when decision makers have faith in the improvements that the ABC system can bring to the organization in case of its application, still, they chose not to adopt it, means that so far and till now, companies don’t consider that the costs of the ABC system worth being incurred. If companies did not carry real and
accurate studies about the costs that might actually be incurred for the implementation of the ABC system, decision makers will never be able in Lebanon to decide objectively, deliberately, and accurately whether to adopt the ABC system or not.

Summary
After analyzing all the results that were considered by companies as barriers facing their decision to apply the ABC system, it is really important to note that the costing systems used by respondents were not in fact totally traditional systems. The study aimed to investigate the reasons that avert the application of the ABC system in the service companies with respect to the traditional system. However, 4 service firms out of the surveyed companies do not use at all the traditional costing; they rely on driver-based costing system which is closely related to the ABC system but viewed by companies as easier to implement. Also, audit companies were applying a very similar system in which they charge every client based on the hours spent by every employee to serve this client.

All in all, the analysis of the candidates’ responses revealed that only H2 and H4 were approved, H1 and H3 were rejected at the 95% level of confidence.
Chapter V

Conclusion and Recommendations

The study was conducted in order to identify the real reasons behind the non-application of the activity based costing system in the service industry in Lebanon. The findings concluded that the main reasons for not applying the ABC system start by the lack of commitment of the parties involved as the most significant factor, along with the necessity to change internal culture and the availability of financial and time resources. Another extremely important factor is the level of satisfaction of the companies’ current costing system. The study deduced that top management’s support is not a central factor as formerly expected. And only one company in Lebanon applied a fully testing technique for the ABC system, yet, many companies believe in implementing the ABC system in the long run. But how practical would their current claims be in the future?

Companies are satisfied with their current costing systems, and wherever they identified gaps or deficiencies they adjust the whole system to include the desired modifications. Many of the surveyed systems as detected during the data collection stage are not traditional. However, these systems resemble to a great extent to the ABC system in their protocols. Nevertheless, decision makers avoid going totally into the ABC system ignoring the fact that they are just half the way from fully adopting the system. Companies are recommended to apply efficient costing systems if they are aiming to effectively manage their companies. And whether this change would be to the ABC
system or to some other system, companies need urgently to determine accurately their costs and expenditures.
Bibliography


