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**Introduction of Information and
Communication Technologies
Teaching in Accounting
Education Following the LMD
Reform in Tunisia: Toward a
Market Orientation**

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Abstract

The aim of this paper is to study to what extent changes made to the ICT educational program of the Tunisian

accounting education,
following the LMD reform,
meet the needs of the
accounting profession. An
application of the market
orientation logic as part of

this program is proposed. An exploratory study conducted with a group of accountants teachers shows that the new program does not meet the needs of their profession. It

would be interesting to complete this study by checking the suitability of this program for chartered accountants and companies.

Key words: LMD reform in Tunisia, accounting education, ICTs, market orientation.

Introduction

We are witnessing an unprecedented acceleration of the evolution of the business world (globalization, free

market, diffusion of new technologies). This resulted in increased pressure on higher education institutions (Universities and their departments : schools of

management, engineering schools, institutes of higher technologies studies), which must attempt to meet these new requirements.

The teaching of accounting sciences (AS) is not an exception. The development of new objectives, technologies and classes is required. Evolution is so

urgently needed that some researchers (Albrecht and Sack, 2000), have argued that fewer in the United States are choosing to study AS and those that do tend to be less

accomplished students.

Whether this trend applies to Tunisia is a subject that will be investigated. Statistics from the Tunisian Order of Certified Public Accountants

(TOCPA) prove that the accounting profession no longer attracts top students.

The value of a profession can't be maintained or improved

unless the involved individuals have the necessary training to meet the needs of the field. Information and Communication Technologies¹ (ICT) creates

new needs for professional accountants. Moreover, the IFAC², through the International Education Standard 2 (IES2) published by IAESB³, states that ICT

represents an individual discipline in accounting education. IES 2 is accompanied by a labelled user's guide: International Education Guideline 11

(IEG11). This guide is dedicated to IT and is required by professional accountants. Therefore, our interest lies in ICT as a new subject being taught in

accounting education in Tunisia, bearing in mind the LMD ⁴ (Licence-Master-Doctorat) reform recently adopted by institutions of higher education. These

reforms are taking place progressively. The first group of institutions was affected in 2006, the second in 2008 and by 2012 the reform will be completed.

Our first objective is to study the introduction information technologies and systems (ITS) teaching in the curriculum of accounting training following the LDM

reform. We will then explore how well the recently proposed discipline can meet the profession's needs. More specifically, we will attempt to answer the following

questions: how is the ICT discipline incorporated into the AS education program with the LMD reform? What is the added value as compared to the previous

system? Is it possible to talk about a market orientation in this case?

To answer these questions, our analysis will first consider

the accounting market in Tunisia, and then accounting education. Next, we will examine the new methods brought on by the LMD reform and their contribution in the

field of ICT education related to accounting training. Finally, we will propose the application of the concept of market orientation to the framework of accounting

education set up by the
Tunisian Ministry of Higher
Education. In order to see if
the market orientation is
really being applied to meet
the needs of those it's

targeting, we conducted an exploratory research with a sample of professional accountants/professors.

Overview of the Tunisian accounting market: politico- economical breakthrough

Tunisia is a developing
French-speaking country

located in North Africa. It was a French protectorate from 1881 to 1956. The global context in Tunisia before and after independence, as well as the evolution of structures,

political priorities, and social and economical policies, have influenced the development of the position of professional accountants in society. We are witnessing an evolution of

their market alongside a progression of their role and organization. The following paragraph will serve to explain the evolution of the market for independent

professional accountants: its
constituent parts and the
development of this
community.

The constituent parts of the accounting market

The Tunisian accounting market consists of three constituent parts: the tax

system, accounting regulations and commercial laws. Despite the early 80s stagnation, they have been continuously changing in recent years.

***- Tax system and accounting
in the reform system: from
palliative to normative***

At the beginning of the
protectorate, even if Tunisian

law texts were not repealed, French law was largely applied to Tunisian companies (Derbel, 1997). At the beginning of the 20th century, the protectorate's

authority was increasing, as was the importance of French texts which were becoming increasingly compulsory in Tunisia⁵ . This tendency facilitated the adoption of

three French chart of accounts (1942, 1947 and 1957) by Tunisian companies existing at that time. The application of the French accounting system continued even more

after independence, although there was no text to enforce it (Ghorbel, 1999).

It was not until the end of the first decade of independence

that the State decided to prepare an independent accounting system in order to adapt accounting of the companies to the needs of the nation (Derbel, 1997). This

accounting project, based on the French accounting model, was created in 1968.

However, during the 80s, Tunisia was in an economic crisis.

The structural adjustment program⁵ (SAP) set jointly with the International Financial Institutions (IFI) consisted of considerable reforms characterized by a

liberalization and an economic breakthrough. The tax system is one major component of the SAP recommended by the IFI. In this context, the Tunisian

government decided to modify the existing fiscal system by getting rid of the two current taxes (the *cedular*⁶ and *superposition*⁷ taxes) and replacing them by

three other principal ones: the corporation tax, the income tax and the value added tax (Kaaouana and Dhambri, 2007). The main purpose of this reform was to tax a wider

population while intending to simplify and revitalize the system, weakened by its complexity and inefficiency (OIT, 1998). However, in order to make the reform

more efficient, procedures for collection and control also required changes (Abed, 2000). Indeed, this was the State's goal in reforming tax

administration and
accounting regularisation.

In reality, following profound
evolution⁸ in the Tunisian
companies in the 1980s, a gap

existed between the recommendations made by the Accounting Plan of 1968 and the actual requirements of the financial and economic environment (Zeghal *et al.*,

2006). The Tunisian government was therefore forced to update this plan. It is in this context that reforms were put in place. A new accounting plan called “The

Accounting System of the
Tunisian companies” or SCET
1997 was created.

The financial requirements of
the state triggered a reform

policy mainly based on the French system and the IFI. This policy consists of a reform intended to increase the market of accounting services in two related

manners: the fiscal pressure put on companies required them to make use of the services of professional accountants and this pressure

would not exist without
accounting regulations.

The first contribution of
SCET97 was the mixture of an
international conceptual

framework with the adoption of some aspects⁹ of the continental approach¹⁰. This attempt at conciliation between these two opposing approaches resulted in a

national accounting system in harmony with American model. This brings us to see the logic adopted in commercial regulations.

- *Commercial law*

Starting in the second half of the 19th century, some aspects of Tunisian accounting regulations were stated in the

commercial code created in 1850, which was strongly inspired by the 1807 French code of. It required that companies should present a statement of account and a

profit and loss report.

However, the application of these regulations lasted briefly (approximately twenty years), only until the advent of the protectorate. The birth of

Tunisian commercial laws dates from this time, but the recognition of it as a special domain of law came only after the independence.

At the beginning of independence, Tunisia decided to regulate commercial litigations through contemporary French law¹¹ at the same time

waiting to develop its own regulations. The commercial code was created in such circumstances and it came into effect on January 1st, 1960 (Kassab, 1970). This code is

based on the work of “The French reform commission of the code of trade and the laws on the companies” (Lagarde, 1956). However, it only adopted certain aspects of the

French reform, notably regarding commercial companies/businesses. This aspect of the code was removed with the enactment of the code of commercial

companies in 2000¹², which was inspired by the French law on commercial companies.

This leads us to study the possible differences between the Anglo-Saxon accounting model and the fiscal and commercial model strongly inspired by French law. The

Anglo-Saxon accounting approach was designed by and for developed countries according to their culture. This implies that its adoption would require an important

cultural evolution in Tunisia (Chouchane, 2005). The Anglo-Saxon model is quite a flexible one¹⁴ designed to meet the needs of companies. However, commercial and

fiscal laws are based on the French legal system and are marked by their rigidity (Koubi, 2008). Applying these strict and rigid rules, which follow a fiscal interest, may be

prejudicial to the true and fair view of the company. This clearly indicates the influence of continental culture on accounting practices, which are ideologically opposed to

the Anglo-Saxon culture
(Mabkhout, 2006).

Thus, for more coherence and
consistency, series of reforms,
particularly in trade,

corporate and tax laws, were required. Following the tax, accounting and commercial reforms adopted by Tunisia, professional accountants became more visible

especially to the state and companies. The development of accounting can be seen in terms of the evolution of the profession and educational system. We are thus

presenting the emergence of the Tunisian accounting profession through the creation of two professional corporations and subsequently, the

development of a system of higher education.

The two key players in the accounting market: the history of the profession

In Tunisia in the 70s,
professional accountants with
multiple profiles and various
competency levels (holders or
not of diplomas) co-existed.
They practiced under

different designations, with “certified public accountants” and “accountant” being the most common. The number of professionals practising under the title of “certified public

accountants” was small. However, this number was increasing due to the massive return of Tunisian graduates, who studied mainly in France. They were endowed with

great willingness and were encouraged by the support of the State, market professionals and international agencies. This led to the creation of the

TOCPA in 1983¹⁵. This organization is the guarantor of independence and of the quality of services of its members who can join it only if they have attained an

“expert accountant diploma”¹⁶.

In the early 90s, the number of accountants far exceeded that of certified public

accountants. Their elevated numbers as well as their lack of professional organization created a situation where they pushed decision-makers to add them to the regulatory

texts governing their profession. Moreover, these accountants were able to gain access to and capture a larger part of the market share. This occurred particularly because

they were allowed to exercise statutory audit functions for commercial enterprises with a turnover of less than 3 million Tunisian dinars¹⁷. However, this target is formed mainly

by SMEs which represent 94% of Tunisian entrepreneurial environment (Seklani, 2009). It is in this context that the Department of Finance decided to organize the

profession of accounts and took the initiative to create the Company of Chartered Accountants of Tunisia¹⁸ (CCAT) in 2002. In reality, the CCAT started to operate in

January 2004¹⁹. Note that these two professional corporations played a key role in the development of the accounting profession in Tunisia and subsequently in

the development the services offered. These services are numerous and they are offered to diverse targets, such as: companies, freelance professionals, individuals and

associations. The services offered include: accounting entries, counselling and auditing (including statutory audits).

As stated by Elliott (1997), accounting offices are in the process of expanding their range of services as to incorporate those responding to the current, diverse, and

emerging needs of their customers. Particularly, the digitization of management processes by companies and the large-scale introduction of ICT have only increased their

needs. Moreover, these services play an increasing role in the turnover of accounting offices (Elliott, 1997).

Currently, professional accountants offer counsel regarding the implementation of management information systems. They examine the adaptation and application of

programs and assist businesses in the selection of management software. They also intervene in various activities in a company's value chain in order to complete

information systems audits
(Albrecht and Sack, 2000).

It therefore appears that the
challenges facing future
professional accountants are

strong. They must develop both knowledge and expertise in ICT, in an environment that requires the possession and use of this technology in all areas. As a result, an interest

in the understanding of the evolution of higher education in AS and the adaptation of the training to these new requirements exists.

The Accounting education market

In the following paragraphs, we will begin by explaining the development of

accounting education in Tunisia. We will then explore to what extent higher education in AS (through the proposed programs) ensures the knowledge and skills

required by the professions
related to ICT.

***Development of the
accounting teaching***

Around 1973, the diploma of accounting expertise was introduced by the “Institut Supérieur de Gestion” (Higher Institute of Management) (ISG). Three “certifs.”

(economic, juridical, accounting) were required to become an expert accountant, a system inspired by the structure of the French training course. Starting from

a personal initiative, the former director of the ISG decided, at that time, to begin teaching the accounting expertise in Tunisia (archives ISG). As a result, students

were following day classes in the ISG. However, in order for the diploma of expertise to be nationally recognized, training had to be provided by least by two institutions. It is in this

context that the “Institut des Hautes Etudes Commerciales” of Tunis (IHEC) started to offer evening classes. The project was established out of a desire to meet the requests

of students, without any other agreements.

In 1977, a “master’s degree (*Maîtrise*) in accounting sciences” was created by the

IHEC. This was a significant improvement of the existing certificate, representing an important step in the organization of accounting practice in Tunisia. This was

followed by the development of this diploma as it was introduced to various other institutions of higher education. Outside of private higher education

establishments, the master's degree in SC is currently issued by eighteen institutions of higher education²⁰ all over Tunisia. The diploma of expert

accountant is issued by four establishments.

Neglect of programs that meet the new skills required by accounting profession:

Toward an introduction of ICT teaching

Albrecht and Sack (2000) and the AECC²¹ (1990) agree that in accounting education

programs, the control of the content requires emphasis. “Cross-sectional” skills such as the mastering of new ICT in terms of tools and knowledge of information systems are

not highly regarded. However, these skills are the student's primary asset in his personal and professional life, especially in the socio-professional context (Elliott,

1997 ; Shelton *et al.*, 2001). In this respect, Eliot (1997) states that the expansion of the list of services provided by accounting offices requires the development of new skills.

Shelton *et al.* (2001) argue that the capacity of some professionals to detect the risk of fraud by their client companies is reliant on their control of certain skills related

to ICT, as well as the knowledge in the field of information systems. But to what degree should we dive into technology?

The ongoing mission of institutions of higher education is therefore to prepare students to build their careers in a changing professional environment.

This is achieved by helping them to develop these skills, which is not always the case in Tunisia, however. The adoption of the LMD reform might, in this context, solve

this problem and allow the integration of ICT into the teaching programs in AS. This is what we are going to explore in the next section.

The reform Framework and political willingness

The aim of this section is to highlight the new objectives of the ministry regarding the

LMD reform and to discuss the main changes made to the program of accounting education.

The new objectives of the ministry: the LMD reform

In his speech on July 13th, 2005, delivered at the Knowledge National Day, the

President of the Republic of Tunisia announced the adoption of the LMD reform. He also called for the creation of an association of the various members of the

teaching profession and those involved in university research in order to identify the best ways for the realization and promotion of the system. The main

objective of this reform is to put diplomas and training programs in line with international standards and in particular with the Bologna process. It therefore aims to

harmonize the various curriculum with the LMD schema applicable to the higher education system in the European Union.

The European system aims, first, the harmonization of training courses in the various member countries, then, the recognition and equivalence between the various degrees

granted and finally, the encouragement of the mobility of students (within the nation and Europe). In this perspective, Tunisia has chosen the adoption of this

reform. This is because Tunisia is largely influenced by the French system due to historical and institutional connections.

Before the reform, higher education in Tunisia was suffering from a lack of credibility and international comparability. The masters (*Maîtrise*) (baccalauréat+4)

that it continued to issue no longer corresponded to the European grid of qualifications. With three levels of studies (3-5-8) crowned by three LMD

diplomas, the Tunisian system is now in line with international higher education standards.

The approach of the ministry was progressive: the implementation of the LMD reform was made in three steps according to the specificities of the institutions.

The first two steps (promotions 2006-2007 and-2008) drew the attention of 109 institutions and focused on licenses (fundamental and applied). The other

institutions will adopt the reform next year. The major contribution of this reform mainly focuses on employability in higher education. In the future, two-

thirds of students should be steered towards applied licences. Although colonization ended, Tunisia remains largely influenced by the French system. However,

the ministry affirms that Tunisia only adopted the backbone of European LMD reform by proposing different program content adapted to the needs of the Tunisian

labour market. For the ministry, the main reason of adopting this reform is based on the certainty that this system will be successful in France and Europe.

The question that arises is what is the contribution of this reform to training in AS. It is for this reason that we believe that it is essential to point out the amendments

made to programs by the LMD reform. Specifically, a comparison must be made between the old master's degrees ("*Maîtrises*") in AS and the two new licenses

(applied and basic) in AS. It should be noted that up to the present, the reform has only reached the level of license, which explains our basis for comparison.

Changes introduced in the program for accounting training

The changes introduced to accounting education by the

LMD reforms are both general and also specific to the teaching of ICT, which represents a break from the existing system (Isaac, 2007). These changes are related

mainly to (1) the introduction of “transversal” units (supplementary training in various fields such as computing, foreign languages, human rights and

organizational culture); (2) the establishment of optional teaching units allowing the student to have a deeper understanding of his specialization or to introduce

other fields of knowledge; and (3) the issue of a “Supplement to diploma”²² to the student who completed a training program. Concerning ICT education, the main novelty

resides in the C2i module
“Computing and Internet
Certificate” which attests to
network and computer skills.
It is established with the aim

to develop, strengthen and validate the mastering of ICT.

C2i became a “transversal” module in the first year of license, free of charge and

fully accessible to all students. In addition to C2i, a new computing course related to basic software was integrated into the main program of L2 and L3. At the applied license

level, a course labelled
computing is now part of the
L2 program as well.

**Towards value creation for
future professional
accountants: market
orientation of higher
education in accounting
sciences**

After having clarified the role of ICT in accounting training, we will apply the logic of market orientation to the reform policy of higher education in AS.

Subsequently, through the use of qualitative research (interviews), we will explore if this reform meets the needs of the profession.

The role of ICT in new accounting teaching in Tunisia

In the context of the license programs, C2i was mainly

emphasised since it constitutes the main element of the reform in the field of information technologies and systems education. Several types of courses are

integrated in this module. We will focus on the stakes of using ICT. The teaching of C2i is done through the use of operating systems, introduction to the internet

and basic software packages, and the encouragement to use platforms such as Moodle. The aim is to provide students with a set of necessary skills (general/“transversal” skills²³

, specific/instrumental²⁴) to carry out the activities required by contemporary higher education curriculum²⁵.

The teaching of computing science in the applied license is based on case studies applied to the accounting practice. However, this initiative depends on the

willingness of teachers since it has no binding force but remains highly recommended by the Ministry. As for the “information systems” discipline, which was taught

before the reform at the level of Master of accountant science (4th year) (*Maîtrise*), it remains unchanged for the moment. The LMD reform, put

into use in 2006, currently
applies to the licenses only.

The master programs are
currently being developed and
they should start at the

beginning of the 2009-2010 school year. For the time being, the ministry has asked the various universities to propose masters programs (Circular n°19²⁶), in order to

establish the content of the
“information systems”
discipline. Those responsible
for developing the programs
are currently having animated

discussions concerning this issue.

As stated in the LMD reform framing note, “the design of the training and its

organization are done in partnership with the professional environment". This raises the question of whether the ministry's initiative to focus on the

professional environment and to fit and respond to its needs will be a market orientation of higher education in AS? This approach (market

orientation) will structure the following paragraphs.

Toward a market orientation of higher

education in accounting sciences

As for universities, the policy of higher education in AS should be market-oriented

(Hammond *et al.*, 2006). The needs of the accounting profession market have evolved. This evolution is undeniably due to the intensive use of ICT by its

customers. We are constantly witnessing the transformation of business perspectives and of the global system of value chains (Hammond *et al.*, 2006). These changes are

giving rise to new requirements: the control and appropriation²⁷ of information and technologies systems becomes a sine qua non condition for the

successful completion of the tasks of professional accountants (Midière, 2006). In this context, the Ministry must propose an AS educational program to

provide students with the required skills and knowledge. In this case, a market orientation policy becomes necessary.

Market orientation concept: customer obsession Market orientation, widely discussed in marketing and management literature, is increasingly becoming a

condition for high performance (Becker and Homburg, 1999; Deshpandé *et al.*, 1993; Drucker, 1954; Kirca *et al.*, 2005 ; Lambin and Chumpitaz-Caceres, 2006).

Thus, we need to understand this orientation and discover its impact on higher education in AS Tunisian policy.

The end of the 1950s marked the launch of a body of research on the place of customer in strategic thinking. This was labelled “marketing concept” (Drucker, 1954;

Felton, 1959). Customers value creation²⁸ through the satisfaction of their needs became a condition of performance. The theoretical framework in which this

concept operates is market orientation. This orientation was addressed mainly through three approaches: cultural, behavioural and systemic. Using the first

approach, market orientation is defined as an organizational culture that aims sustainable customer value creation, taking into account key stakeholders interests (Ben

Chehida and Monnoyer, 2009;
Gatignon and Xuereb, 1997;
Gotteland, 2002; Lambin and
Chumpitaz-Caceres, 2006;
Narver and Slater, 1995).

In the second approach, the organizational learning process is emphasised, which is reflected in the processing of market data, information and knowledge leading to the

implementation of coherent strategies (Amara and Kalika, 2007). This approach was introduced by Kohli and Jaworski in 1990. They define it as “the organization wide

generation of market intelligence²⁹ pertaining to current and future customer needs, dissemination of that intelligence across departments, and

organization wide
responsiveness to it³⁰ ” (p.6).

The third approach defines
market orientation as a set of
management systems³¹

configured with the purpose of promoting the organization orientation toward its customers and competitors (Becker and Homburg, 1999). Efforts to integrate the three

approaches emerged afterwards placing the accent on their complementarity.

Thus, we can define market orientation as “an

organizational culture which aims to create and maintain a superior customer value by the generation, the dissemination and the responsiveness to market

intelligence. It is characterized by an innovative behaviour and a collaboration with key stakeholders in the process of responsiveness to current and

latent needs of the market”
(Ben Chehida, 2010).

Based on this definition, we
will try to understand how
market orientation can be

applied to the implementation
of a policy for higher
education in AS.

Market Orientation of Tunisian higher education in accounting sciences

Our intention is not to claim
that the Ministry adopted an

effective market orientation. Instead, given the objectives expressed in the Ministry's speeches and official texts, we will try to understand how its approach is similar to the

market orientation. Based on the adopted definition, we will detail through the use of three criteria (organizational culture, customer value and innovative behaviour) to

understand how market orientation is being applied to the framework of this reform:

- ❖ The market orientation of higher education in AS:

Deshpandé and Webster (1989, p.4) define

organizational culture as “the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with norms for behavior

in the organization". Even though there is no consensus about the organizational culture definition, this one can be used as a reference for understanding and providing

guidance to organizational behaviour. Thus, a shared vision oriented towards the understanding of the market's needs is required. It is in that sense that the LMD reform

project in higher education in AS is being integrated.

Based on circulars and interviews conducted with key members of the Tunisian

higher education ministry
(including the consultant of
the minister³²), we found that
the willingness to meet
professional accountants
needs is widespread not only

within the ministry, but also within pedagogical team (even if these needs were established without consulting one of the parties in the profession (the OECT),

as is indicated in our interviews below). This vision guided (and continues to guide) efforts made to achieve the stated objectives. For example, as we stated, this

vision is reflected by a request made to universities for detailed master's programs proposals, which must include the teaching of information technologies and systems. The

introduction of C2i and the teaching of computing courses applied to real cases in accounting (in the license programs) are two good

examples showing this willingness.

The question of to what extent the programs proposed by academics meet the real needs

of the profession requires examination. This raises the issue of the perception of these needs. Do these represent the needs as perceived by pedagogues or,

to the contrary, those held by practicing accountants?

There is not enough information to answer these questions since these programs are still being

developed. But one thing is for certain, during the preparation of AS licenses programs, the TOCPA was not consulted as it was excluded from the commission. This

puzzles us, especially because we contacted three higher education establishments which stated that their certified public accountants' professors took part in the

commission of license
programs preparation.

- ❖ Value creation for AS
students and
ministry:

In marketing, the aggregate value as perceived by the client is defined as the algebraic sum of received benefits and consented sacrifices (Aurier *et al.*, 2004).

The objective is to propose the best adapted response to the expressed and latent needs of the client. In this context, targeted customer should first be determined

and then the possible value being proposed to him detailed. We can distinguish two types of customer: a direct customer, namely the AS student or future

professional and an indirect customer, the ministry.

The proposed value to the direct customer consists of a training program to acquire

necessary skills and knowledge, including those related to ICT, which meet the requirements of accounting profession. The introduction of information technologies

and systems teaching, both theoretical and practical, represents nothing other than a desire to add value to the new system (as compared to the former one). This is

explained by the ministry's stated objectives regarding the compatibility of the proposed training with the real objectives of the market (all disciplines included).

Value creation for the ministry might focus on the achievement of the stated objectives of the LMD reform and the adaptation to new market requirements. In

effect, aiming to be in line with European policy and to ensure an equivalence of diplomas issued with national and international mobility in mind, the proposed training

will allow the ministry to achieve its objectives. Therefore accounting education will create value for the ministry. This training, being adapted to the

professional market requirements, will directly create value for students and indirectly for ministry. Indeed, this indirect value creation might be explained by, on the

one hand, the achievement of one of the ministry's objectives (response to market requirements) and, on the other hand, the improvement of the ministry's

image, as this body was able to adapt its programs to the profession new needs.

- ❖ Innovative profile of the ministry in the

field of higher
education in AS:

A market-orientated
organization attaches major
importance to innovation in

order to be reactive and even proactive to its expressed and latent target needs (Narver *et al.*, 2004). Thus, innovation appears as an important element of satisfaction of

current and latent customers' needs. It is defined as a creative and risk-taking behaviour that encourages incremental changes as introduction of new products

or services, new methods of production, establishment of new markets, use of new supply sources and creation of new organizational systems (Johannessen *et al.*, 2001).

Applied to higher education in AS, innovative behaviour would result in, first, the enforcement of the LMD reform. Even if the ministry, through the adoption of this

reform, assumes a follower mentality (Miles and Snow, 1978) by imitating Europeans, it is indeed an innovation in the field of higher education. Second, the introduction of

information technologies and systems teaching in accounting education also constitutes an innovation which favours the adaptation to market needs.

From this perspective, we can conclude that the ministry, in its policy of higher education in AS, adopted a market orientation. But the question that concerns us is to know

whether the needs which the ministry is concerned about, which all reform has been based upon, are the same as those expressed by professionals (the market).

Indeed, market orientation is based on generation, dissemination and reaction to market intelligence (Kohli and Jaworski, 1990). This implies an implementation of a whole

process that allows it.

Particularly, the generation of market information is a very important step in this process and it represents a basis on which the organization will

identify customers' needs
(Gotteland, 2002).

***Survey of a sample of
certified public accountants -
teachers***

Through the use of an
empirical exploratory

approach, we have tried to understand if the ministry, by way of the establishments providing accounting training, has met the needs of the profession. In June and July

2008, we conducted semi-structured interviews with a key actor in the accounting profession. A sample of ten certified public accountants

(professors, members of the TOCPA) was taken.

The choice to investigate certified public accountants is explained by their significant

role in higher accounting education in Tunisia. On one hand, they set up the Commission of Teaching and Training course. On the other hand, they took the initiative

of conceiving a LMD program reform for accounting education (rejected by the ministry for higher education). Many of them teach in accounting programs,

while working in the current field as well, which gives a real legitimacy to their opinions on the LMD reform.

In this study, we chose to contact the oldest and most well known certified public accountants in Tunisia. These professionals are mainly members of the National

Commission of Accountancy and teach accounting courses as well. We conducted only ten interviews, the threshold of semantic saturation having been reached. The interviews,

an average duration of one hour, were carried out in the offices of the respondents.

The interview guide included the different themes to

explore. It was validated following positive feedback from our research team and pre-testing. Once transcribed again, a thematic analysis was conducted (Bardin, 1993)

according to three stages: the coding of data, the counting of themes, and the content analysis of speeches.

Contextual and vertical analyses were carried out in

order to better understand and analyze the effectiveness of the accounting education. To ensure anonymity, our interviewees were coded (ECE followed by a number).

This qualitative approach allowed us to complete our vision and to comprehend the questions being investigated in another fashion. There are two relevant conclusions that

were discovered. The first is that some respondents poorly perceived the goals of the LMD reform as well as the added value being claimed. The second is that most

certified public
accountants/professors were
excluded from the
commissions deciding upon
the disciplines in AS.

The first conclusion focuses on the frustration of all the professionals interviewed regarding the success and the added value of the reform.
“For me there is no reform,

there is a reformatting of L, M and D degrees with the same means and the same approaches”, stated ECE 1, thus questioning the added value of the reform. At the

level of content of the proposed programs, it seems that few of them have changed. Moreover, “three-quarters of the programs are the same..., several licenses in

management sciences have the same program” (ECE1). The quality or the relevance of the content is even questioned as stated by ECE3: “...they have proposed a fundamental

license in accounting education, which, following several readings appears to us much lower than the current diploma". According to ECE2, "the LMD system put in place

will make the situation worse". According to some interviewees, such a reform in accounting education does not even exist: "In adopting the LMD reform, nobody thought

about the reform of
accounting training. It was
just about political discourse
and diploma recognition”
(ECE7).

The questioning of the added value of the LMD reform could be linked to the ministry's poor understanding of it. Actually, it appears that "the reform management teams

have serious problems related to its perception” (ECE1). Moreover, “today..., it is the licenses which prevail and there is no idea or information about the master’s program ...

even those who have made the reform have no idea” (ECE2). The adoption of LMD reform was, according to some interviewees, the result of a simple mimetism: “I think

the genesis of the reform is benchmarking since, as France and other European countries started this LMD system, it was therefore normal that Tunisia should

adopt the same system”
(ECE5).

The second conclusion relates
to the exclusion of certified
public accountants from the

commission and subsequently, allegations of not taking into account their real needs in the proposed training. ECE3 described his discomfort as such: “At the

level of the TOCPA, we have made several propositions; we have asked that we should be involved in the education reform but we have not been listened to". Similarly,

according to ECE2, “the commissions established by the ministry are formed by academics who have excluded the accounting profession from participating in the

development and the design of programs". This exclusion occurs in the context where these professionals have continued to raise awareness of their interest in

participation with the ministry.

Moreover, as ECE2 states, “we want to be involved in decisions on curriculum and

academic programs,, we want our program to meet international norms and standards. We must provide future professional accountants with the

possibility to practise in Tunisia as well as elsewhere. The objective of our contribution is to participate in the training of professional accountants, which is of high

quality at the international level". It appears, finally, that the ministry has chosen to close its eyes to these repeated appeals by choosing to populate its commission

predominantly with economists (ECE3). This raises the question of why they have been excluded. “academics do not like professionals, there are

“jealousies” (ECE2), “it might be personal” (ECE5). The majority of responses are of a similar vein. A conflict appears to exist between these two entities. Does this

exclusion translate into some ignorance of professionals needs or requirements? The answer tends to be affirmative. Some interviewees believe that this

reform is bound to fail given that it does not respond to their needs (such as they are perceived): “I think the LMD reforms are failing because they should start with a focus

on outputs, namely the needs of the market, the expected skills. We must define the profile of the professional accountant, then we have to organize the diploma” (ECE1);

“Not having identified the expectations and needs before making the programs may give rise to the breakdown of the LMD system” (ECE2).
Despite the ministry’s

initiative in teaching ICT (in particular the development of C2i), professionals believe that insufficiencies exist as students are not properly equipped for their future

profession (ECE3). Note that the desire of the ministry is to equip students with a sufficient control of basic software (including Microsoft Office) and applications that

allow telecommuting..

However, to our knowledge, up to the present, there is no training on software or specific applications in the

field of accountancy (for
example: *Ciel*).

Conclusion

Based on this fieldwork investigation, the interviewed certified public accountants/professors appear pessimistic about the results of this reform on

accounting education since they are “not meeting” their needs as claimed. This contradicts the ministry’s ambitions, which claim a willingness to respond to the

needs of professionals. Should we not wait a few more years to see if this training meets the real needs of the market? Are the perceived needs of both sides the same? Or at

least, are they converging? It should be noted that in our investigation, we only have questioned a category of professionals, which limits the scope of our conclusions. It

would be interesting to
conduct further research with
the CCAT and companies as
well. We find the process of
market orientation applicable
Eto the framework of this

reform but we must wait to see if the designed “product” actually meets the needs of professionals’ market in order to test this orientation. A survey of accounting

professionals would therefore be of much interest, once AS students face the labour market.

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CEDEX 4.

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Endnotes

¹ In France, the ANACT (National Agency for the Improvement of Conditions of Work) defines the IT as “technologies of the treatment

of intellectual processes involving the unification of the different technologies based on the electronic data available and accessible via network infrastructure, either

at the local level (company) or the global level”.

² International Federation of Accountants.

³ International Accounting Education Standards Board.

⁴ Its equivalent in the Anglo-Saxon system is

Bachelor/Master's degree/
PhD.

⁵ The “*beylicaux*” decrees on 2
February 1930 and 5 May
1930, related to joint stock

companies and establishing the SARL, made enforceable in Tunisia the French laws of 24 July 1867 and 7 March 1925 and the texts which they had changed.

⁶ A program of structural adjustment is a program of economic reforms put in place by the IMF (International Monetary Fund) or the World Bank in order to assist out of

their crisis the countries
affected by substantial
economic difficulties.

⁷ The cedular tax taxes differently each category of income based its origin.

⁸ The superposition tax is a personnel tax which at a

complementary level hits the total of incomes already taxed at cedular title.

⁹ We mention such an example the privatization of

several companies and the tax reform.

¹⁰ Example : nomenclature of the accounts

¹¹ In Tunisia the continental approach makes reference to the French approach.

¹² That was possible under the Franco- Tunisian juridical Convention judicial of 9 March

1957 (Article 2, paragraph 2)
which submitted the
litigations of commercial
character to the rules of
French law.

¹³ Law n° 2000-93 of 3
November 2000,
promulgating the code of
commercial companies.

¹⁴ No obligation as to mentioning the nomenclature for instance.

¹⁵ Act n°82-62 30 June 1982, on the regulation of professions of accountant

experts and of the external auditor of companies and establishing the order of accountants and auditors of Tunisia.

¹⁶ The Order is governed and organized by the law n°88-108 of 18 August 1988 recasting of the legislation relating to the profession of accountant experts. The

experts enrolled in the order
are entitled to exercise the
profession of accountant
expert and auditors.

¹⁷ Amount fixed by decree of the ministry of finance.

¹⁸ Law No 2002-16 of 4 February 2002 on the

creation, the regulations and the organization of the CCAT.

¹⁹ In 2007, the company had approximately 1200 members with 394 technicians in

accounting but in 2009, this scaled up to 1500. Instead, the number of the accountant experts although increased is still in minority (575 members).

²⁰ Note that the higher education institutions in Tunisia, include both the universities and the schools or institutes of higher education.

²¹ Accounting Education
Change Commission.

²² The “Diploma Supplement”
provides information on the
knowledge and know-how

acquired by the student in its university curriculum.

²³ Taking into account the evolving nature of the technologies of information

and communication
incorporate the ethical
dimension and the respect of
professional ethics.

²⁴Appropriating the working environment, the search for information, saving, securing and archiving the data in local and network, achieving documents bound to be

printed, achieving computer-assisted work and present all this, exchange and communicate to distance, carry out projects by remote collaborative work.

²⁵ Decree of the minister of higher education, scientific research and technology of 13 July 2007, laying down the conditions for obtaining the computer and internet

certificate issued by the
virtual university of Tunis.

²⁶ All the circulars and
framing notes are available on
www.mes.tn

27

<http://www.educnet.education.fr/ecogest/si/cec/artcec>

28 Two approaches in marketing allowing the

elucidation of the concept of customer value: customer value perceived by the company v/s perceived by the consumer (Aurier *et al.*, 2004).

29 The market intelligence aims to gather information about customers and the exogenous factors (competitors, technologies,

government, etc.) which may affect their needs.

³⁰ It means actions taken in response to the produced and disseminated intelligence and

is reflected by the selection of target markets, the design and production of products/services adapted to the current and future needs of the customer, etc.

31 Organizational system,
information system, planning
system, controlling system of
and human resources
management system.

³² Telephone interviews carried out in April 2009. A single question was asked. It relates to the coherence of the proposed programs with the

real professional accountants
market needs.

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