COST CALCULATION, RELIGION AND COMMERCE: THE BOOK OF GOOD GOVERNMENT OF THE SOUK OF MALAGA IN THE LAST QUARTER OF THE 13TH CENTURY

(CÁLCULO DE COSTES, RELIGIÓN Y COMERCIO: EL LIBRO DEL BUEN GOBIERNO DEL ZOCO DE MÁLAGA EN EL ÚLTIMO CUARTO DEL SIGLO XIII)

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ABSTRACT:

The present paper describes the context and accounting content of the “Book of Good Government of a Souk (Zoco)”. The book is dated in the 13th century and deals with the Souk of the city of Malaga. Its author is Al-Saqati.

The justification of this work is based on the need of knowing the historical accounting patrimony of al-Andalus and on the need of studying the influence of the religious doctrines in the use of certain cost procedures (Carmona and Ezzamel, 2006). We pretend to research on the genesis of relatively complex cost accounting techniques, looking for social, political or cultural reasons, and not strictly due to the economic rationalities as it has been traditional till now (Fleischman and Tyson, 1993; Hoskin and Macve, (2000); Boyns and Edwards, (2000)).

The study of this Book allows us to show evidences about the procedures for fixation of prices, with a certain complexity, with the following peculiarities: the fixing of prices was related to retail commercial activities; the process was aimed to avoid the fraud and it came in defence of the consumer; the calculations was supported, above all, by religious reasons; and both, the periods as well as the geographical area are different of the usually studies (19th and 20th centuries and Anglo-Saxon countries).

Keywords: Accounting and Religion, 13th Century, al-Andalus; Cost Calculation.

RESUMEN

El presente trabajo describe el contenido contable de un Libro de Buen Gobierno de un Zoco andalusí, en concreto de la ciudad de Málaga, escrito en el siglo XIII.

1 Los autores agradecen la financiación de los Proyectos de Investigación SEJ 00919 Andalucía, cruce de culturas, implicaciones para la Historia de la Contabilidad (Junta de Andalucía) y SEJ 01913 La Contabilidad como una Práctica Social e Institucional (Ministerio de Educación y Ciencia).
La justificación de este trabajo se basa, por un lado, en la necesidad de conocer el patrimonio histórico-contable de Al-Andalus y, por otro, en la de estudiar la influencia de doctrinas religiosas en el uso de ciertos procedimientos de costes (Carmona y Ezzamel, 2006). Pretendemos analizar la génesis de unas técnicas de contabilidad de costes relativamente complejas buscando para las mismas razones sociales, políticas o culturales y no estrictamente de racionalidad económica como ha sido la más habitual hasta ahora (Fleischman y Tyson, 1993; Hoskin y Macve, (2000); Boyns y Edwards, (2000)).

El estudio de este Libro nos permite mostrar evidencias sobre el uso de procedimientos para la fijación de precios con cierta complejidad y las siguientes peculiaridades: a) estaban relacionadas con actividades comerciales al por menor, b) el proceso tenía como objetivo evitar los fraudes de los comerciantes yendo en defensa de los consumidores c) los cálculos se apoyaban, sobre todo, en razones religiosas, y d) tanto el periodo como el área geográfica son diferentes de los comúnmente estudiados (siglos XIX y XX y países anglosajones).

**Palabras clave:** Contabilidad y Religión, siglo 13, Al-Andalus, Cálculo de Costes

### 1- INTRODUCTION

El presente trabajo analiza un procedimiento de coste definido en el “Libro de Buen Gobierno de un Mercado (Zoco)”, específicamente el “Kitab fi Adab Al-Hisba³”, datado en el último cuarto del siglo XIII. Este manuscrito incluye un conjunto de leyes y procedimientos de cálculo cuyo objetivo era regular el comercio de detalle, principalmente para evitar cualquier posibilidad de fraude en el mercado de la ciudad de Málaga⁴. Esta regulación ha sido comentada y traducida al español por Chalmeta (1967a, 1967b, 1968a y 1968b). Las justificaciones de este trabajo son mostrar el patrimonio contable de Al-Andalus⁵ y explicar la implicación contable de este manuscrito y el estudio la influencia de las doctrinas religiosas en el uso de ciertos procedimientos (Carmona y Ezzamel, 2006).

Abdul-Rahman and Goddard (1998, 198) quoting to Al-Attas (1995) pointed out that: “Islam does not concede to the dichotomy of the sacred and the profane. The worldview of Islam encompasses both sacred and profane aspects and the secular must be related in a profound and inseparable way to the sacred. However, the sacred aspect is ultimately and finally the most significant. The secular aspect is seen as a preparation for the sacred aspect. Everything in Islam is ultimately focused on the sacred aspect without implying any neglect or unmindfulness of the secular aspect”.

More specifically and related to accounting, Jacobs and Walker (2004) pointed out the capacity of accounting calculations to control the behaviour of the believers. Particularly, the influences of the Muslim beliefs on accounting seem to be important: “The development and practice of accounting in Muslim society thus reflected Islam as a comprehensive code of spiritual and material life” (Zaid, 2004, 155).

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² Is the Arabic word for book (Arabic: بِكْتَابٍ Biktāb).
³ Is an Islamic doctrine of keeping everything in order within the laws of Allah (Arabic: أَنْ حِيْسَةَ الْحَيْثُ عِبَارَةَ Biktāb).
⁴ This city is located in the South of Spain.
⁵ Arabic: ??????? Al-Andalus.
Two years before Carmona and Zan (2002, 294) already have pointed that these influences have been scarcely studied until that moment. Therefore they suggested that “the international community of accounting historians may well benefit from insights of investigations into practices deployed in continental Europe during the … the Muslim society (Zaid, 2001)”.

Also we want to present the historical accounting patrimony of al-Andalus treating to find possible reciprocal influences on the accounting skills used in the Islamic al-Andalus and in the Christian Iberian contemporary kingdoms during this period. In this sense and with regards Mathematics\(^6\) Nobes (2001, 212) indicated that the “influences from Arabia on mathematics and on some other antecedents of accounting developments in the West are undoubted. It has also been obvious for many years that several features of pre-double-entry accounting were used in the Muslim world before they were used in the West”. Therefore is thinkable that there were a transfer of accounting knowledge or calculative procedures as it has happened in Mathematics. Zaid (2004, 169) suggested that the “relationship between the accounting systems developed in the Islamic state and subsequent developments beyond it remain a subject for historical research”.

In summary, we want to research on the genesis of a relative complex cost accounting techniques. Firstly, looking for social, political, or cultural reasons; and not strictly due to the economic rationality (Fleischman and Tyson, 1993; Hoskin and Macve, 2000; and Boyns and Edwards, 2000) Secondly, showing examples of use of those techniques out the Anglo-Saxon area (Boynts and Edwards, 2000). We agree with Carmona and Zan (2002, 300) when they say that “present emphasis of investigations on the 1850–1940 period implies that too little is known about accounting and managerial practices in proto-industrial, medieval and ancient settings.”

2. - THE CONTEXT: AL-ANDALUS\(^7\)

2.1- ORIGIN, PEAK AND FALL OF AL-ANDALUS

Al-Andalus was the Arabic name given to the part of the Iberian Peninsula governed by Muslims at various times in the period between 711 and 1492 (Esposito, 2003). It refers to the Umayyad Caliphate\(^8\) province (711-750), Emirate of Cordoba (750-929), Caliphate of Cordoba (929-1031) and its "taifa" ("successor") kingdoms (1031-1492). As the Iberian Peninsula was eventually regained by Christians re-expanding southward\(^9\), , the name al-Andalus came to refer to the Muslim-dominated lands of the former Visigothic Hispania, initially included much of Spain, Portugal and parts of southern France, although in the final period was limited to the Kingdom of Granada.

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\(^6\) The 13th century had a significant mathematician, the Italian Leonardo Pisano, alias Fibonacci. He was influenced by the Moslem Culture. He was a tradesman as his father was and lived in the North of Africa, where he learned the Indian procedures of calculation. He travelled practically through all the Mediterranean countries and finally become being a mathematician of the Emperor Federico II (1194-1250). In this Court he worked with scientists who had been working in Spain or kept a relation with Moslem wise men of the Iberian Peninsula, even Jews as Judá Salomó Cohén from Toledo and was disciple of Meir Abulafia (died 1244).


\(^8\) The Umayyad dynasty (Arabic,???) (Banu Umayyah), whose name derives from Umayya ibn Abd Shams, the great-grandfather of Muawiyyah I, was the first dynasty of the Muslim Caliphate, 661–750.

\(^9\) In the process known as the Reconquista.
At first, al-Andalus was ruled by governors appointed by the Caliph. However, from 740, a series of civil wars between various Muslim groups in Iberia resulted in the breakdown of Caliphal control, with Yusuf Al-Fihri, who emerged as the main winner, effectively becoming an independent monarch.

In 750, the Abbasids overthrew the Umayyads for control of the great Arab empire. But in 756, the exiled Umayyad prince Abd-ar-Rahman I ousted Yusuf Al-Fihri to establish himself as the Emir of Cordoba. He refused to submit to the Abbasid caliph, as Abbasid forces had killed most of his family. For the next century and a half, his descendants continued as emirs of Cordoba, with nominal control over the rest of al-Andalus and sometimes even parts of western North Africa, but with real control, particularly over the marches along the Christian border. Indeed, the power of Emir Abdallah ibn Muhammad (circa 900) did not extend beyond Cordoba itself. But his grandson Abd-Al-Rahman III not only rapidly restored Umayyad power throughout al-Andalus but extended it into western North Africa as well. In 929 he proclaimed himself Caliph, elevating the emirate to a position competing in prestige not only with the Abbasid caliph in Baghdad but also the Shi‘ite caliph in Tunis.

The period of the Caliphate is seen by Muslim writers as the golden age of al-Andalus. Crops produced using irrigation, along with food imported from the Middle East, and provided the area around Cordoba and some other Andalusí cities with an agricultural economic sector by far the most advanced in Europe (Chandler, 1987). Among European cities, Cordoba under the Caliphate, with a population of nearly 500,000, eventually overtook Constantinople as the largest and most prosperous city in Europe. Within the Islamic world, Cordoba was one of the leading cultural centres. The work of its most important philosophers and scientists had a major influence on the intellectual life of medieval Europe. This transmission was to have a significant impact on the formation of the European Renaissance.

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10 Later he was titled Al-Dakhil.
11 He succeeded him in 912.
12 With whom he was competing for control of North Africa.
13 Notably Abulcasis and Averroes.
14 Muslims and non-Muslims often came from abroad to study in the famous libraries and universities of Al-Andalus. The most noted of these was Michael Scot, who took the works of Ibn Rushd (“Averroes”) and Ibn Sina (“Avicenna”) to Italy.
The Caliphate of Cordoba c. 1000 at the apogee of Al-Mansur.

The Cordoba Caliphate effectively collapsed during a ruinous civil war between 1009 and 1013\textsuperscript{15}. Al-Andalus now broke up into a number of mostly independent states called \textit{taifas}. The Almoravids\textsuperscript{16} conquered the \textit{taifa} kingdoms after defeating the Castilian King\textsuperscript{17}. With regards the city of our study, Malaga\textsuperscript{18}, became the capital of a distinct kingdom, dependent on Granada after the fall of the Umayyad dynasty in 1055 (Burrell i Floria, 1988, 192).

\textsuperscript{15} Although it was not finally abolished until 1031.
\textsuperscript{16} They were the fundamentalist-Islamic rulers of the Maghreb.
\textsuperscript{17} Alfonso VI at the battles of Zallaqah and Uclés.
\textsuperscript{18} During this time, the city was called \textit{Malaqah} (Arabic ?????).
The Caliphate broke up into many taifa states in 1031. (One of them was the Malaga one in the South of the Iberian Peninsula).

The Almoravids were succeeded in the 12th century by the Almohads after a defeat of the King of Castilian. Nevertheless, in 1212, a coalition of Christian kingdoms under the leadership of the Castilian King defeated the Almohads and forced their sultan to leave Iberia. The taifas, newly independent but now weakened, were quickly conquered by Portugal, Castile and Aragon. In 1236 the Reconquista progressed to the last remaining Islamic stronghold, Granada, achieved by the forces of Ferdinand III of Castile. Granada was a vassal state to Castile for the next 256 years, until January 2, 1492 when Boabdil surrendered complete control of Granada to Los Reyes Católicos ("The Catholic Monarchs"). The Portuguese Reconquista culminated in 1249.

2.2. - RELIGION, LAW AND COMMERCE

Following to Chalmeta (1967a), the trade was considered correct by Islamic Religion which stimulated the production and market. With regards to the circumstances in al-Andalus during the period in which “Kitab fi Adab Al-Hisba”, was written, the same author indicates the strong tendency to the single-crop farming, the development of the productions and the purpose to the exportation of a large extent of this. The religious element was important in the society although did not supposed an exclusive role as in the Christian kingdoms did. In the first stage of Moslem domination, permissiveness with Christians and Jews was significant. Even, some of them occupied top positions in the administration.

For the Moslem, the Koran was not only the Book that contained the revelation of Ala through the prophet Mohammed, but beside, the Moslem considered the Koran as the source of the whole knowledge and the essential guideline to advance by the right way. Due to that, the Moslems went also to this Sacred Book to resolve juridical questions. Thus, the enterprise of adapting the customs and valid practises to the Koran rules was entrusted to the jurists. They also used the Sunna, or collection of saying attributed to Mohamed which were transmitted orally. Therefore, in a certain sense, the Koran was adapted to the exigencies of the time. The age of the Sunna come from the time of the Prophet and attribute to the Sahib or a friend of the Prophet. The Sunna diffusion was carried out by Mohamed and his friend. The Sunna also included sayings and acts transmitted to the posterity through the oral tradition or Hadit.

Together with oral tradition, the jurists also developed the science of positive law or fiqh. The jurist Abu Hanifa (dead in 767) compiled the fist important fiqh where combined part of the analogies (or quiyas) with a reasoning based on the equity (or istihsam). The first jurist who introduced the traditions of the Prophet in al-Andalus was the judge of Cordoba Moavia Ben Salish de Emesa who has learned in a large stance in Syria. Thus, recurring to the traditions was more usual in Cordoba than the judge’s personal criterion. The alfaques achieved to found a theocracy based on the rules of the Koran and got sometimes an enormous political influence (Burreli Floria, 1988, 129-130).

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19 They were another Berber dynasty.
20 Alfonso VIII in the Battle of Alarcos.
21 At the Battle of Las Navas de Tolosa.
22 Ferdinand and Isabella.
23 With the conquest of Algarve by Afonso III.
24 Faqih (Arabic: ????, pl. ????) is an expert in fiqh, or, Islamic jurisprudence.
The Koran accepts favourably the commercial activity, the production and the search of profits. According to the Hadit: "the just merchant will revive" and "The Day of Judgment the worthy merchant of confidence will be sat in the shade of Allah's throne" (Chalmeta, 1967a, 138). Thus, in a similar vein, the religious jurisprudence condemns practices that disturb the free game of the offer and the demand and the Tradition condemned any agreed to established prices by any authority (Chalmeta, 1967a, 139).

3- THE “KITAB FI ADAB AL-HISBA”: THE MANAGEMENT REGULATIONS OF THE SOUK BY AL-SAQATI

3.1- ANTECEDENTS

García Gómez (1957) has translated into Spanish an orderly about the souk of Seville in the 9th century. It is the translation of the oldest antecedent of Andalusian treaties of hisba, by an Andalusian author. The author is Yahyá ibn ‘Umar, an Andalusian although he lived most of his life in Tunisia. He was successful as masterful and had brilliant disciples. He explained and spread basic legal works, wrote legal opinions and solved legal consultations with brilliance. He composed many titles although most of them had been lost. Nevertheless their decrees of the souk are conserved.

Following García Gómez (1957, 260) this work has an extraordinary importance from different points of view. Thus it interests so much to economists as to historians interested in the al-Andalus ordinary life. The treaty is made up of 56 articles although they are not structured in chapters. This causes that their reading is difficult.

This Order includes the necessity to fix prices (ep. 6) to avoid abuses, but not to any procedure to calculate them. It regulates the use of correct measures and describes several possible frauds (ep. 2, 3, 4, 14). On the other hand, it makes several advises on the obligation of selling products of an accurate quality. In this sense, for instance, forbade the sell of bread down of weight (10), watered-down milk (11), honey composed of different levels of quality (21), a not correctly sacrificed sheep (50), mix of meat and viscera (56). Moreover, in the case of mixing different kinds of milk, the seller had to advise the client. Also, this Orderly makes references to the property of some remainders (for instance, the remainder material after making some garment, in the ep.49). The final justification of all the regulations contained in this Book is the correct following of the Islamic religion.

This work does not makes references neither costs of products nor accounting but, due to its style and objectives, it is possible to affirm that it is precursor of the work of al-Saqati in the last quarter of the 13th century.

3.2- THE MANUSCRIPT AND ITS AUTHOR

The date of the Regulation is not specified although Chalmeta set between 1275 and 1300 (1967a, 137). This Regulation describes closely most activities of the Souk of Malaga, although does not mention neither others activities like those related to the ones of the Port of the City or several important guilds (Chalmeta, 1967a, 145). According to this author the

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25 This author identified six different manuscripts of the Book located in 1967 in the Islamic Studies Institute (Madrid), National Library of Rabat (Morocco), National Library of Cairo (Egypt), Royal Library of Morocco, Al-Qarawiyyim Library of Fez (Morocco) and the last one kept in a particular Library.
book is like an economic Treatise (1967a, 139), the most extensive one of the known in West. It is not theoretical but rather practical. The Treatise describes closely the defrauder merchants and also human descriptions and rougish activities (1967a, 161). Thus, according to Chalmeta, the detail of these descriptions made that the Instruction can be classified as precursor of the Spanish literati genre known as “Spice Novel” that was generalized in the Spanish 16th century (1967a, 143).

The Book has a Prologue (Chalmeta, 1967b, 359-334), and 176 articles grouped in eight chapters with the following titles:

- Chapter I: Introduction to the hisba and almotazenasgo.
- Chapter II: About measurements.
- Chapter III: Regarding scales.
- Chapter IV: With regards people who works the flour and bread.
- Chapter V: About the workers who slaughter the animals and sold their mutton. Also with regards the fish and a diverse kind of food.
- Chapter VI: Regarding to people who elaborate perfumes and pharmacist.
- Chapter VII: Regarding the sellers of slaves. This chapter includes a specific subchapter about agents and brokers.
- Chapter VIII: About the craftsmen.

According to Chalmeta, the value of this Instruction comes from its practicality because the author did not describe theoretical cases but cases experimented by himself (1967a, 160-161). Continuing with Chalmeta, the author of the Instruction, Al-Saqati, was born in Malaga and had been manager of Souk of Malaga (1967a, 132), he knew the social and economic life of the city (1967a, 130) and, even, introduced in the Book frequent self-biographic references. With regards to his attitudes he was an active, anxious, and sharp person (1967a, 133).

3.3. - THE MAIN OBJECTIVE OF THE INSTRUCTION: AVOIDING THE FRAUD

Regarding to the objectives of the Regulation, the rules included in the Book were aimed to avoid the fraud in the commercial activity in the Souk of Malaga. The fraud was also named “ruse” in the “Kitab Fi Adab al Hisba”. The author of the Kitab said that he “proposed to publish a treatise that contained the description of fraudulent tradesmen or craftsmen who were established in the souks and their traps with regard to the measures and weights” (article 1). Thus, in a great percentage, the norms regulated weights, scales, measures and the activity of the people who made commercial transactions. The articles of the Instruction mentioned specific tradesmen such as bakers, millers, butchers, makers of turbans, blacksmiths, locksmiths, livestock sellers, dry and fresh fruit sellers, cooks, chemists, slave sellers, craftsmen, and painters.

27 Chalmeta, 1967b, 381-385.
28 Chalmeta, 1967b, 386-397.
29 Chalmeta, 1968a, 143-165.
30 Chalmeta, 1968a, 166-182.
32 Chalmeta, 1968b, 367-400.
33 Pages: 391-400.
34 Chalmeta, 1968b, 400-420.
35 See for instance the article 44 about the deception of the flour makers.
The vigilance of trader’s behaviour was justified by the religious precepts of the Koran. Consequently, the author quotes the religious doctrine of the Prophet Mohammed in several paragraphs of the Instruction. For instance: “who defrauds is not of ours” (ep. 5) or “God is compassionate with the honest man on having sold, on having bought, and to the reclaim the payment of a debt” (ep. 6).

According to Chalmeta, the Instruction is aimed for being a glossary that contained a typology of frauds and deceptions produced in the souk of Malaga by the craftsmen and merchants. That is, it was expected to be a norm for regulating the buy and sale operations, and still, the economic life and the production process in the town.

The frauds described in the Instruction had a scarce economic value if you considered them in an isolated form. The Instruction refers to actions such as the compress or the shake off goods, the dent the measures devices or the fact of putting the thumb into a measure. The description of this kind of frauds only had reason of being if they usually bought and sold small fragments or little measures of goods. For instance, the volume of a thumb into an oil measure only represents something significant when these operations were repeated constantly in the souk operations and happened in an “economy of very poor people”.

These descriptions show us that people lived in precarious circumstances. Thus, they went to the souk to buy, for instance, only a cup of flour, a pitch of salt or a bulb of garlic. In this context, we can understand the frauds described in the Instructions such as the sale of dead meat (articles 74, 78 and 87), or of dogs meat (article 78), the adulteration of pharmaceutical products (Chapter Fifth), or the stretch of the pieces of cloth when they were measured (article 135).

3.4. - THE ALMOTACÉN

Many of the rules were focused on the person in charge or manager of the Souk labour (Almotacén). Thus, Al-Saqati described the duty of this manager as a mix between the religious and the civil spheres.

“He joins an aspect of the religious law, with a rule of the temporary power” (ep. 1).

Chalmeta (1967a) indicates the following characteristics of a Souk’s manager: (i) was an inspector; (ii) his aim was reducing the fraud and that is why he fixes the prices. He treated to reduce the decepions of sealers and fabricants; (iii) had to be equitable, vigilant, and incorruptible; (iv) had wide jurisdiction based on the custom; (v) regulated the commercial transactions; and (vi) did not perceive any duty.

This responsible had to make verification for surprise and without trusting on his assistants. This job had a wide jurisdiction and hardly any practical limit. Avoiding the wastes was one of his missions, especially with the objective of preventing the frauds and deceptions of the sellers. He controlled the craftsmen and their production. The Almotacén made the employer responsible for the frauds committed by any of his employees. He watched the accuracy of the measures of capacities and weights as well as the precision of the scales. He imposed penalties according to the grade of the fraud committed.
Several Alamines helped the Almotacen to the control the craftsmen and their production. The Alamines were experts in the commercial activities and people of recognized honesty, refined moral and technical knowledge. They were requested when any doubts arose about the characteristics that had to have the quality of a product, the amount given in a sale, the calculation of the raw material consumption or cost of a product.

4. THE COST CALCULATION

One of the ways used to avoid the fraud was fixing the fair price of the transactions of several products. To get this fair price, the almotacen had to calculate the cost of the merchandises. The author of the Instruction began saying that it was not lawful the cost calculation adducing an opinion of the Prophet Mohammed (article, 7). Although later he described how to calculate the cost of several products like: flour (article 50), bread (articles 55, 56 and 169), meatballs (article 67), meat (article 75), nougat (article 170), horseshoes (article 171), pots (article, 172) and ropes (article 174) among others (Chalmeta, 1967a, 150).

With regards to the meat, when the almotacen fixed its price (art. 75), had to be informed about how much it cost and added to this cost of acquisition a different margin of profit depending on the kind of meat (i.e: two dirham’s$^{36}$ for the sheep). Later, he had to reduce the weight of the bones and the cost of the sacrifice of the animal, diminished by the price estimated of the sale of the leather and the remains.

Thus, the unit cost was obtained as follows:

\[
\text{Acquisition Cost} + \text{Margin Butcher} + \text{Cost of Sacrifice} - (\text{Sale Remain}) \\
\text{Weight of the Animal} - (\text{Weight of the bones}).
\]

he salesman had to write this amount in a visible place for the buyer.

Thus we can say that the process of fixation of meat prices included the following items: (i) acquisition cost; (ii) margin of the benefits; (iii) wastages of the commodities; (iv) cost of commercialization; and (v) the sell of sub products. Another interesting example is the process of cost calculation of bread that it is translated below:

"Article 56. - What the bread has to be worth.
For this ends we remember one formula, (derived) of the custom in the use among (bakers), which makes the evaluation in the presence of almotacén useless. Take a quintal, that is 1,600 auquías$^{37}$, to the price which is sold by the miller, that is currently of 30 dirhemes$^{38}$, then add 800 auquías$^{39}$ (of water), being 2,400 auquías, once kneaded. In order to work them, 3 kneaders are necessary, at the rate of one dirhem and a half, one assistant, one man in the oven, to half dirhem, half ochavo$^{40}$ of salt and water, and five ochavos of firewood, with an amount of 33 dirhemes and half ochavo. The almotacén will indicate, according to his opinion, a certain profit for the bakers, diminishing the one that they obtain at the present in the souks by each dinar.

$^{36}$ Monetary measurement.
$^{37}$ Measure of weight.
$^{38}$ Or dirham (in Arab: ????) was one old silver currency used in several points of the Islamic world that was worth the tenth part of the gold dinar (Arabic: ?????, is derived from denarius, a Roman currency) (Wikipedia).
$^{39}$ Measure of capacity.
$^{40}$ One eighth part of a dirham.
inverted, although it would be better to obtain a perfect elaboration and cooking; and to open, however, a little the hand (allowing more profits to the bakers)”.

With regards to the calculation of the unit cost this article adds:

“If we put 6 dirhemes of expenses of manufacture and divided the total number of auquías that there is in a quintal (of flour) kneaded by 36 dirhemes, it is that to each dirhem correspond 66 auquías and two thirds, and to each quarter of dirhem 16.5 auquías and two thirds; leave this small pick due to its reduction, since it is loses one and a half auquia for the cooking, being equivalent a quarter of dirhem to 15 auquías [of bread] cooked”.

With regards to the calculation of the amount that you can buy with one dirhem they made the following calculation:

\[
\frac{\text{Flour (1,600 auquías)} + \text{Water (800 auquías)}}{\text{Cost of the Flour (30 dirhemes)} + \text{Manufacture Cost (6 dirhemes)}}
\]

Then:

\[
\frac{2,400 \text{ auquías}}{36 \text{ dirhemes}} =
\]

Then with one dirhem you can buy 66.66 auquías. And with a quarter of dirhem you can buy 16.66 auquías.

But even more, they considered a decrease in the production and the norm says: “Do not considerer this small peak (1.66 auquías) due to one and a half auquía is lost in the cooking”. Therefore a quarter of dirhem was equivalent to 15 cooked auquías.

The case of the price of the bread is a good example of the inclusion of labour costs depending on the staff structure. This article says that the process needs the work of three kneaders who will receive 1 dirham each one, an assistant and one person in charge of the oven who will receive half a dirham.

The same rule makes references to the imputation of indirect costs (cooking ones in this case), and to the calculation of unit costs, because the cost is initially calculated for quintals of flour, and finally divided among the number of auquías (weight units in which the bread was sold). Again, the Book takes into account the wastages of the commodities because the calculations include the lost of weight happened during the cooking. This article also considers the quality when indicates:

“… although it would be better to obtain a perfect elaboration... (allowing them more profits)”.

Related to the bread cost, the article 60 describes the calculation of the cost of flavour bearing in mind the different salary of each employee and the price of the commodities (mainly wheat).

The article 86, focused on the elaboration of some kinds of cakes, describes closely the manufacture procedures, including the exact weight of every commodity and once again
takes in mind their wastages during the cooking. The same article makes express reference to avoid of frauds as its objective. In a similar vein, the article 79 describes closely the receipt to elaborate sausages and meatballs, the 83 to the buns and the 86 cakes. In all the cases, the text includes the exact weight of the necessary commodities. This level of detail on the measures is not only included in some manufacture process, but the definition of each unit is treated in specific articles. For instance, the article 25 deals with the different weigh unit of the cereals and their equivalences.

In spite of the details in quantitative measures and cost, the Instruction also makes references to attributes and qualities. In this sense, Chapter Seven is full of references about the advantage and disadvantages of slaves according to their precedence. Thus, some of them were good for working in the fields, others for working at the homes and even another for reproduction.

5. - DISCUSSION AND CONCLUSIONS

We assert that the “Kitab fi Adab Al-Hisba”, describes procedures for fixing prices with a certain complexity for several products basing on what they include: (i) acquisition cost; (ii) profits estimation; (iii) wastages of commodities happened during the processes of elaboration and commercialization; (iv) the sell of sub-products; and (v) exact measures. As mentioned before, we have found references to the necessity to calculate prices in the Orderly published in Seville in the 9th century, but not to any procedure to calculate them.

Zaid (2004, 161) describes an accounting system implemented by the Islamic State for the cattle developments. Following this author, the system was very detailed; requiring a register of the animals classified according species, gender, and age, and took into account the price of the meat. But it is remarkable, that unlike the Al-Saqati Book, the system did not make references to the sell of sub-products (leather, for instance).

Thus, the analysis of the Book by Al-Saqati allows showing evidences on the use of procedures of prices fixing with a certain complexity, and characterised by the following contributions with regard to previously studied cases. The fixing of prices is related to commercial activities retail. Until now, almost all of the studied cases have been related to productive activities.

The Book by Al-Saqati, as in the Orderly of Seville, was aimed to avoid the fraud in defence of the final consumer. Until now, the advances in cost techniques have been justified, mainly for economic reasons, for the need of the organizations to be more competitive in relation to its competitors. The use of these techniques was justified by moral and religious reasons. Al-Saqati himself described the labour of the manager of the Souk as vigilance both of the religious and civil laws, that is, related both to sacred and profane sphere.

The period as well as the geographical area is different of the usually studied: mainly 19th and 20th centuries and Anglo-Saxon countries. In this sense, Zaid (2004,168) pointed out that Muslim merchants and businessmen probably imitated the accounting systems used in the Islamic State with the objective of calculating their own profit, and fulfil accurately the payment of the zakat 41.

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41 Religious tribute imposed to the Muslim on the second year of the Islamic era.
This religious base is also common in the Treatise for the Orderly of Seville. In this sense, we have to confirm the assertion by Abdul-Rahman and Goddard (1998, 198) when they said that the "world-view of Islam encompasses both sacred and profane aspects and the secular must be related, in a profound and inseparable way, to the sacred.... Everything in Islam is ultimately focused on the sacred aspect without implying any neglect or unmindfulness of the secular aspect".

According to Chalmeta, the Treatise of Al-Saqati had an important relevance, and was a basic instruction for the Maghribian zabazoques\(^\text{42}\). Moreover, the value of the work by Al-Saqati is not limited to the Maghrib, but it seems to have influenced on the Spanish Christian laws, specifically on the Regulations Books of the cities of Malaga, Seville and Granada, and also in the Llibre de Mustaçaç\(^\text{43}\) (1967\(^a\), 162). But the really remarkable and surprising is that this instruction has maintained its relevance in Salé\(^\text{44}\) (Morocco) at least until 1923.

7. - REFERENCES


Burrel i Floría, (1988), Crónica de España, Barcelona, Plaza y Janés.


Chalmeta Gendrón, P. (1967a), El Kitab fi Adab Al-hisba” (El Libro del Buen Gobierno del Zoco) de Al-Saqati, Al-Andalus, 32:1, pp. 125-162.

Chalmeta Gendrón, P. (1967b), El Kitab fi Adab Al-hisba” (El Libro del Buen Gobierno del Zoco) de Al-saqati (continuación), Al-Andalus, 32:2, pp. 359-397.


\(^{42}\) He was a civil servant in charge of the government of a souk.

\(^{43}\) It was a law book for the city of Valencia with regards the duties of the almotacen.

\(^{44}\) Close to Rabat.


Vernet, J. (1999), Lo que Europa debe al Islam de España, Barcelona, El Acantilado.
