

Accrual Accounting Accomplishments in Iranian Universities of Medical Sciences: A Mixed Method Study

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Abstract: This study intends to specify the most important consequences out of performing first phase of financial reforms in Health System of country i.e. establishment of accrual accounting. This is a mixed method study through two consequent qualitative and quantitative phases. A valid (face and content) and reliable (using split half) check list including 23 questions was applied for the first phase and 10 assistants of management and resources development were deeply interviewed in a semi structured manner. Descriptive analysis and thematic analysis were used for the pre stated phases respectively. Recognition of income with the highest mean versus Outer effects as the lowest one was determined in the first phase. The other accomplishments as the main themes were effects on: the board of directors of universities, managers, financial personnel, violations, processes and resources. Conclusion: considering all the accomplishments of accrual accounting in Iranian health sector, what is obvious establishment manner of this system in governmental sections and as a necessary for finding the best advantages and consequences.

Key words: Accrual Accounting • Iranian Universities of Medical Sciences • Accomplishment • Mixed Method Study

INTRODUCTION

Most developed countries have been intended to change their cash accounting bases in public organizations into different forms of accrual one through two recent decades [1]. Meanwhile, there are common goals for all countries starting accrual system in public sector such as: Providing evaluation possibility for managerial functions, better facilitation of financial management and understanding of program costs, any access to useful information for resource allocation, better financial reporting and assisting the assets management and cash amounts [2].

Different studies considered other advantages for accrual accounting in public sector including: Better allocation of resources, increasing the responsiveness and transparency of activity costs of government and providing a complete view about economic effects of government [3,4]. In spite of all mentioned advantages, other studies confirmed that any application of accrual accounting may cause the costs in public sector because

any recognition of assets and debits and their evaluation is a costly task. On the other hand, there is a nice reflection in the time of recognition of incomes and costs in this method of accounting [5]. Even the same specialists believe that there are more advantages in accrual method than its costs.

Regarding all mentioned advantages for benefiting from accrual accounting at governmental sector and also with regard to some defects mentioned in different studies for cash system including limited scope and disability in showing any cash currencies more than one financial period, disability in satisfying any information needs about assets and debits, any effects of current consumption of stocks and assets of government, limited responses to assets, debits and consumed amounts and ignoring any respond to management, most of developed countries have started the managerial and controlling movement from cash system to accrual one from previous years [6,7].

The idea of financial reforms in Ministry of Health and Medical Education (MOHME) was the first part of

pioneer modifications under the title of Health New Financial Management Reform in 4 phases. The first phase was establishment of accrual accounting instead of cash one in all universities and faculties under the supervision of MOHME. Such a replacement was started from 2005 and has developed up to now in all affiliated units.

Regarding the mentioned experience was a new and expanded factor in Ministry of Health, there are not a lot of studies about consequences of such a change for Medical Sciences Universities. There is only one study about the effects of changing cash accounting method into accrual one based upon financial and operational functions of Shahid Beheshti Medical Sciences University. The mentioned university claimed that applying accrual accounting has resulted a better situation in financial operation and functions. Furthermore any applying of accrual accounting for specifying of unit cost and real costs of program and functions is really more efficient than cash accounting. On the other hand, applying of accrual accounting may be encountered in exact control of incomes and other resources of credits, costs and payments. Finally any establishment of accrual accounting at this University may be resulted in supplying and maintenance of three major accounting including the stocks, fixed assets and incomes according to the necessities of accounting standards [8].

Other study about evaluation the advantages of accrual accounting at Tehran University of Medical Sciences showed that all information resulted from accrual accounting may cause take decision by managers and better situations for writing of operational budget in the field of finding all goals of 4th plan of development, these systems may also cause transparency of cost price of services and activities and finally respond all managers of university [9].

Regarding the relevant statistics at national level, double situation of incomes at MOHME was occurred after establishment of accrual accounting [10]. This study intended to specify the most important consequences out of performing first phase of financial reforms in Health System of country.

MATERIALS AND METHODS

This is a mixed method study through two consequent qualitative and quantitative phases. The research population includes 45 assistants of Development management and resources of Medical Sciences Universities throughout the country.

This study was performed through two following phases:

In first phase we had a check list including 23 questions resulted from made interviews elsewhere with 18 financial managers of Medical Sciences Universities throughout the country [11]. The mentioned check list was designed in 8 dimensions as follows:

Four questions about "Entrance of specialists", four, about "Transparency of financial reports", three, about "Internal control", four, about "the presence of auditor", two, about "Recognition of costs", two, about "Recognition of income", three, about "Financial independency of units" and finally 1 question about "Outrange effects".

Grading method of questions in check list was as follows: 10 grades for option Yes, 5 grades for option a little and 0 grades for option No.

In order to measure face and content validity of the study instrument, we submitted the mentioned check list to 2 specialists in Health New Financial Reform and also accrual accounting at MOHME. Finally they confirmed all mentioned questions in this check list as well. For measuring the reliability, we used Split Half method, the result of which was $r=0.89$ as a sign of suitable reliability of questions.

Regarding the limited number of research population and for increasing the number of obtained ideas, we used census method in first phase without any sampling as well. Therefore all participants were supplied with relevant check lists after coordination and obtaining prior time from assistants of Management Development and resources accompanied with required explanations about the goal and importance of the study and absorption of knowing participation and required explanations about keeping the confidentiality of data and unknown condition of check lists.

In order to increase the responsive rate and correctness of received replies, a trained force interviewed with participants with powerful relation and specified the ideas of people at relevant boxes of the check list. Finally the filled check lists would be registered by Excel software and further analysis.

At second phase of this study and for finding deep and rich information and round views of key informants we used qualitative method on semi structured interview basis. A number of 10 persons of assistants of management and resources development were selected as key informants by purposeful sampling method from heterogeneous groups based upon typing of

university(one/two/three)with personal satisfaction. The inclusion criteria for interviews were successful experience as accrual accounting agent and interests for participation in this research then with this numbers of interviews we reached the saturation level.

In order to make an interview and with regard to the results of check list analysis in first phase, the titles of topic Guide in qualitative interview was designed with two open questions. To confirm validity of these questions and upon preparation of draft version we could make required modifications through interview with 2 non-selected assistants for confirming the meaningful situation of questions from the view of respondents.

We tried to anticipate any possibility of making any interview in a calm and free from job noises and/or telephone rings or referring of persons which may interrupt the participants. In order to prevent from any probable problems all discussions were recorded by two electronic systems at the time of interview and in order to prevent from any probable problems accompanied with implementation of records immediately after the end of each session. In addition, the average time of interview was 35 ± 5 minutes with regard to executive and key situation of participants. All important speeches of participants were noted simultaneous with interviewing with the person. Then all recorded items and also extracted key factors would be registered briefly in a special form.

Frame work analysis was used for data analysis which is recently common in the field of health [12] in which all data would be presented in five steps including Familiarization, The matic, Indexing/ Coding, Charting and finally Mapping and Interpretation on Main Theme basis.

For reducing any potential reflexivity of the plan, two researchers with no more organizational relation with Health New Financial System and good experiences in the field of qualitative analysis managed for data analysis applying Atlas Ti software. Then all items were compared with each other and due to the similar extracted themes we could concluded that all analysis have the required validity and correctness.

RESULTS

Among 45 assistants of Management and Resources Development occupied at Universities of Medical sciences throughout the country; 30 persons were ready to cooperate and filled the mentioned check lists that all of them were male.

The obtained findings out of quantitative analysis showed that in first dimension (entrance of specialists) all questions were about financial specialists entrance into relevant fields of universities after establishment of accrual accounting and also increasing the academic level of personnel and upgrading of knowledge level of managers after these modifications. Then the minimum grade of this dimension by mentioned assistants was 15 and the maximum was 35 with an average of 26.5.

Regarding the consequence dimension of establishment the accrual accounting in the field of transparency of financial reports, processes and financial statements and also recognition of university assets, the minimum grade in this dimension by the assistants was 20 and the maximum was 40 with an average of 32.7. Furthermore about 6 assistants from among 30 respondents (20%) answered to all the questions of this dimension with the maximum grades (40).

In third dimension (Internal control), the minimum granted grade was for control and internal supervision at universities after establishment of accrual accounting and satisfaction coverage and also increasing the responding and responsibility of units upon establishment of internal control, was zero. This means that none of the mentioned three items have been applied in that university in relation with internal control and after establishment of accrual accounting. Except for one university, other assistants considered a grade more than zero for this dimension of questions and maximum grade of them was 30 with an average rate of 20.6.

In fourth dimension of questions (presence of auditor), 8 assistants (27%) considered a complete grade (40) for relevant consequences of auditor that means consultancy and guidance of financial managers and master managers of university, current cooperation of auditor with university, useful managerial reports for the board of directors and special role of auditor after establishment of accrual accounting at universities. Meanwhile the minimum grade was 10 and average of grades was equal to 28.9.

The relevant dimension of recognition the costs and regarding the effect of accrual accounting on recognition of costs and increasing the speed of credits payment of domestic and foreign customers of university the minimum grade was equal to 5. But 8 assistants (27%) granted the complete grade (20) to the relevant consequences of university. In addition the average grade of this dimension was equal to 14.3.

Table 1: Distribution of participants in research according to their service place

Type of university	Number	% of total
One	1	3
Two	21	70
Three	8	27
Total	30	100

Table 2: Average grade of each dimension in filled check lists by the assistants of management and resources development of universities

Dimensions of check list	Average of grades	Criterion violation	Maximum grade of each dimension
Entrance of specialists	26.5	2.35	40
Transparency of financial reports	32.7	2.81	40
Internal control	20.6	1.68	30
Presence of auditor	28.9	2.35	40
Recognition of costs	14.3	1.5	20
Recognition of income	17.3	1.1	20
Financial independency of units	14.13	2.6	30
Outer effects	3.79	1.45	10

*Minimum grade of each dimension is equal to zero.

Table 3: Other consequences out of establishment of accrual accounting from the viewpoint of assistants of management and resources development

Main themes	Sub themes
Effects on the board of directors of universities	Familiarity of the board of universities with the position of assistant of resources and Organizational development Increasing the power of decision making based upon statistics and information by the board of universities
Effects on managers	Submission a base for decision making of managers before the end of fiscal year Increasing any cooperation between managers of support field (Financial and Budget) Increasing the knowledge of environmental managers of resources
Effects on financial personnel	Increasing the information of financial specialists of universities Increasing the motivation of financial personnel
Effects on violations	Prevention from financial corruption and recognition of peculations Increasing of financial disciplinary
Effects on processes	Confidence Modifying of traditional budget system
Effects on resources	Familiarity with optimal management of resources Increasing sensitivity of affiliated units about optimal consumption of resources Recognition of credits and properties

About 11 persons out of total participants (37%) granted a complete grade (20) to the consequences of sixth dimension (recognition of incomes) including the effect of accrual accounting on recognition of incomes and increasing the incomes of university. But the minimum grade was 5 and average one was equal to 17.3.

The maximum rate belonged to diffusion of replies in financial dependency of units while 6 universities out of 30 (20%) claimed that they had no more financial independency in affiliated units and their average grade in that dimension was equal to zero. Meanwhile 3 universities out of 30 (10%) claimed that they had financial independency in affiliated units which may cause more changes in the role of headquarter units and

also a reduction in number of refers to the mentioned headquarters. Therefore the maximum possible grade (30) was allocated to this dimension.

Finally the final dimension of relevant check list was related to external effects of accrual accounting and any demands of other organizations for submission of consultancy and educational services, from which 15 assistants (50%) claimed that they had no more external demand out of establishment of accrual accounting (zero grade) and against 8 other persons (27%) who claimed that accrual accounting had caused an increase in demands of other section for receipt of educational and consultancy services from their universities (grade 10).

The obtained findings out of content analysis of interviews with assistants of Management development and organizations led to submission of 6 major themes and 14 sub themes as mentioned in table 3 as would be mentioned later on.

The Effects on Board of Directors of Universities: “Establishment of accrual accounting made the board of directors of our university to have special attention to the position of Development Assistant as the major direction of resources management” (P5)¹. On the other hand, “All decisions made by the board of directors were based upon relevant statistics and information more than before” (P1).

The Effects on Managers: “Accrual accounting made a more transparent viewpoint for managers in other sections of university about financial discussions” (P2). Furthermore, “Support assistant and managers of universities are able to control the costs in a more transparent and real forms which may cause a professional function of financial management” (P8). On the other hand, “Any successful performance of accrual accounting in different universities was an encouragement factor for other assistants who may perform this method ”(P1). Furthermore, “Accrual accounting is a base for managers and for making any decision before the end of fiscal year”(P3). Meanwhile “it may increase knowledge of environmental managers about the resources”(P10). The other consequences of accrual accounting was:” It may cause a synergy and cooperation between different managers of supporting including financial, public and budget affairs”(P10).

The Effects on Financial Personnel: Participants in the present interviews, believed that there are some effects of accrual accounting on financial personnel as follows: “It may cause an increase in knowledge and information of accounting specialists”(P2) and “it may increase the motivation of financial personnel and relevant persons due to transparency”(P10).

The Effects on Violations: According to the findings it is obvious that “performing of accrual accounting may cause an increase in financial disciplinary and prevention from financial corruption”(P5). In other words, “Accrual accounting prevents from any peculation” (P9). Therefore one of the participants informed us about recognition a peculation case in his/her university by the help of accrual accounting”.

The Effects on Processes: “ Accrual accounting leads to trust, confidence and clearness” (P9), moreover, “ Recognition of stocks assets and their poccus is one of the successful gains of settling accrual accounting” (P3).

The Effects on Resources: “After establishment of accrual accounting at universities, all relevant discussions about management of resources and sensitivity in recognition of costs were specific accompanied with special sensitivity of affiliated units with regard to transparency of financial information about optimized consumption of resources”(P5). Furthermore, such an establishment of accrual accounting may cause better recognition of credits.

DISCUSSION

Any change from cash accounting to accrual one is not only a change in accounting system but also a conceptual change in applying of accounting principles and standards in public sector management[13].For this purpose, there are different studies for explaining the advantages of accrual accounting and relevant benefits out of it for example Diamond has specified the easy evaluation of program through displaying complete costs of programs, facilitation of any evaluation of financial situation through displaying all resources and obligations,increasing the responds of management against his/her functions, increasing the motivation of management for better functions due to an increase in transparency and providing wide scopes of required information for making better decisions as the most advantages of applying accrual accounting in public sector[14].Others have pointed out to better responding and increasing of transparent financial information as a result of using accrual accounting [15].

According to the findings of this study it is obvious that any establishment of accrual accounting at Universities of Medical Sciences throughout the country may cause a recognition of incomes (with highest average) and then transparency of financial reports. Furthermore, the presence of auditor, recognition of costs, domestic control and entrance of specialists were respectively confirmed as the other consequences of quantitative phase of study. Meanwhile even with financial independency of units and outer effects of which (with minimum average) with the intends of different participants could be included in the consequences of accrual accounting at universities of medical sciences,

¹Participant Number 5

but they have been located at the end of the table of consequences respectively by obtaining the minimum averages accordingly.

Of course it is necessary to mention that in first dimension which is entrance of specialists and according to the idea of persons in charge of the plan at Ministry of Health and upon the start of implementation of these modifications for entrance of financial specialists to financial section, there are considerable changes which may alter the section manager from a costing manager into a professional one. This may cause a lot of accounting specialists could enter into the section with more motivations for increasing their academic level and replacement of specialists in relevant positions. In second dimension of transparency of financial reports, different questions were asked from these assistants. But as a result of performing of accrual accounting all the assistants changed into persons in charge of preparing different reports for domestic levels of management. As a result it was cause a transparency in financial information. This is necessary to mention that according to the idea of specialists in relevant ministry and since the mentioned plan needs to pass other phases after complete establishment at universities in order to upgrade internal control therefore it may provide tangible and more effective results for domestic and middle managers. In third dimension we have the presence of auditor which the specialists believe that is has an auxiliary and powerful role in accelerating of major goals of this project. But in order to have an optimized benefit from their special ideas it is necessary to provide financial information and reports for the auditor and in the framework of accounting and auditing standards accordingly. Recognition of costs is one of the major consequences of performing this project in fourth dimension for which there are some fundamental and key functions. All results have been presented clearly in different sessions of the board of directors of Universities of Medical Sciences and auditing reports of them for informing all members of the boards as well.

All specialists in Ministry of Health confirmed that after entrance to cost price period all results of this dimension is more obvious than before in 5th dimension. The mentioned results are effective and helpful for all organizations and involved systems in the field of health services. Like the present research which was applied in recognition of income by obtaining the maximum average and as the most important consequence of accrual accounting, in the research of Kordestani, again we have confirmation of any prevention from interfere of incomes and different years costs and recognition of

incomes and real costs with suitable reflection of capital assets and long-term debits and establishment of an operational budgeting attitude and better revealing the case in reporting as the most important advantages of accrual accounting [15].

In sixth dimension of financial independency of units, all obtained results made the executors of this plan at Ministry of Health to provide a separate instruction and circular letter for Universities of Medical Sciences even with relevant articles of financial circular letter and clear order of law for financial independence performance of units. Then it is possible to perform the case equally throughout the country with an obligation to have financial independence of sub-groups. Perhaps one of the reasons for lack of outer demands in some of the Medical Sciences Universities is lack of success of them throughout their own province and among other governmental / non-governmental organizations for specifying the success results of performing this project even the present project in their own university.

Furthermore all participants reached to an agreement in qualitative phase of study about some other consequences like familiarity of the board of directors of universities with real position of resources development assistant, increasing any cooperation between managers of support field, increasing the knowledge of environmental managers about the resources, increasing the information of financial specialists of universities, increasing the motivation of financial personnel, prevention from financial corruption and recognition of speculation, increasing the financial disciplinary, confidence and recognition of credits and properties.

In addition, the other confirmed consequence by assistants of management and resources development at qualitative phase was familiarity with optimized resources management and increasing the sensitivity of units for optimized consumption of resources. Meanwhile we have similar findings out of Barton study which is a sign that accrual accounting may cause an increase in efficiency of resources management [16].

Any increase in power of decision making based upon statistics and information and submission a base for decision making of managers before the end of fiscal year are the other consequences at qualitative phase of this research. For this purpose other studies show that establishment of accounting based upon complete obligation may cause a great help for increasing the responds, transparency, optimized decision making of managers and efficient/ effective programming with following up the economic aspect for optimized usage of limited resources [9].

Modification of traditional budget system is another consequence through the efforts of assistants of management and resources development of Medical Universities throughout the country out of establishment of accrual accounting. For this purpose and according to the other studies it is obvious that benefiting from accrual accounting is so much better in comparison with traditional cash one because we should compare the costs with operation goals not with pre-determined budgets in accrual accounting [17].

Regarding what has been mentioned in this study and also considering other studies, consequences and limited advantages for benefiting from accrual accounting in public section, what is obvious is establishment manner of this system in governmental sections and as a necessary for finding the best advantages, But in spite of the importance of the scope and further results of accounting at public section there are not complete researches about most subjects including: evaluation of establishment methods and successful performance of accrual accounting in public section and further problems [18]. Therefore it is proposed to have complementary studies in the field of performance methods and establishment of accrual accounting in health section as the first pioneer part of government for encouraging other governmental sections for such a change by the help of these concepts and recognized consequences.

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