



Providing a Practical Model for Designing an Accrual Accounting System at State Universities

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Abstract

Over the past years, the demand for accrual accounting in the public sector, including universities, has increased for various reasons, including better accountability and managing expenses, assets, and liabilities. As an information system, accrual accounting improves the organization by providing quality information for planning, accountability, monitoring, and managers' control. It also provides better monitoring and comprehensive evaluation of the performance of public sector organizations for stakeholders. According to the above, several regulations require universities to change their current system and implement accrual accounting. Due to this and the lack of an empirical model for designing an accrual accounting system in the universities, the main goal of the paper is to present a comprehensive model for designing an accrual accounting system in the universities. The model is designed based on the theoretical foundations in the scientific and research resources and the authors' professional experience, taking into account the Iranian universities' specific conditions. It should be noted that the designed model has been implemented in one of the largest universities in Iran, which adds to its applicability and performance.

Keywords: Accrual Accounting, Cash Basis, Implement Model, Universities

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1. Introduction

The limitation of economic resources makes it necessary to apply smart methods to optimize using those resources. Accounting information is of the most significant and valuable information which are involved in applying these resources. Accounting provides the same basis and comprehensible information for evaluating value relative and rate of return on economic resources. The public sector also is not an exception. Public accountability is considered a need for the democratic process and a complement for public sector management. Accountability in five levels including strategy, plan (efficacy), performance (economic efficiency), planning process, allocation and administration of affairs, commitment and legitimacy (observing rules and regulations) in the public sector, has been resulted in its complexity compared to the private sector (Kordestani 2007).

Public accountability consists of two aspects of fiscal accountability and operational accountability, that each one has its own characteristics (Babajani 2003). Users of the government financial statements are increasingly expected to provide them some information about assets, liabilities, and effects of current consumption on the net assets held. There is no possibility of providing such information in cash accounting. Cash accounting is merely a report of input and output cash flows and held cash balance (IFAC Public Sector Committee, 2000). Financial reports based on accrual accounting help the user evaluate the reporter unit's accountability against resources under their control, financial status, financial performance, and cash flows of the reporter unit and then decide about supplying resources or doing a transaction with it (IFAC¹ 2011).

As per clause A, article 49 of the act for the fourth cultural, social and economic development plan of the Islamic Republic of Iran approved in 2004 and article 10 of the act for goals, tasks, and organization of the Ministry of Science, Research & Technology, financial, administrative and employment independence have been granted to the universities and higher education institutes and their affairs are administered merely according to special by-laws approved by the respective board of trustees. Considering these articles' provisions, cost credits are allocated to the administrative authorities out of the general government budget according to the finished prices. The budget will be provided based on an operation requiring the development of accounting and financial reporting system level (Babajani & Madadi, 2009). Whereas, accrual accounting, by providing a more accurate picture of assets, liabilities, revenues, expenses, precise control of revenues and other sources of financing, provides more accurate financial information and reports, thereby improves the planning situation and public sector accountability and then helps to better monitoring of the performance of organizations through improving asset and debt management and harmonization in the public sector accounting system (Babajani 2006, Damghanian 2009). Legislators have emphasized its use in universities through legal requirements. For example, universities and institutes of higher education were required to design and implement accrual accounting systems by the end of 2013, per Article 38 of the Financial and Trading by-law approved in 2011. The legislator in Article 26 of the Law on the Adjustment of a Part of the Government's Financial Regulation, approved in March 2014, requires ministries, government institutes, and other executive agencies that in cases they use the public funds, to make their financial statements following public sector accounting standards based on accrual accounting.

They are considering the requirement of article 219 of the five-year law of the fifth development plan of the Islamic Republic Iran (2011-2015). The emphasis has been on the "application of operational budgeting" in government agencies (including

1- IFAC Public Sector Committee

a universities) in recent years on accrual accounting as its implementing platform. Other provisions that emphasize the use of accrual accounting include Article 217 of the Executive Package, clause (D) of Note 20 of the State Budget Act of 2015, and Article 16 of the Civil Service Management Act and the Executive Bylaw. In this regard, universities as a part of the public sector body need to change their accounting systems. Considering the importance of accrual accounting establishment in universities and the lack of a comprehensive and applied model for its design, the purpose of this study is to determine the backgrounds and requirements of accrual accounting design and implementation in Iranian universities and higher education institutes. Finally, to provide a practical model for its complete design in these organizations. This research has at least two main achievements: (1) identifying the requirements of designing and implementing an accrual accounting system in Iranian universities; (2) providing a comprehensive and applied model for accrual accounting design in Iranian universities. It should be noted that the proposed model (assuming it fits the conditions) applies to other public sector organizations and institutions. Based on the information mentioned above, the theoretical foundations of the research will be briefly summarized. The requirements (prerequisites) of accrual accounting design and implementation and the comprehensive accrual accounting design model will be presented in detail. This study's innovation is that before designing this model based on content analysis, the frameworks' key points were first identified. Then a standard model was designed upon combining the theoretical framework and the researchers' experience.

2. Theoretical Foundations¹

The International Federation of Accountants and the American Government Accounting Standards Board (1990) defines the accounting basis of the principles for determining the timing of recognizing the effects of transactions for financial reporting purposes. Traditionally, government budgets and allocations have been compiled base on cash, which has led to cash-based sovereignty in government accounting. Also, interest in cash in governmental accounting arises from the need for parliament or other groups to oversee how taxes are collected and how the government pays them in every financial period. However, users of government financial statements require that governments provide information on assets, liabilities, and the effect of current consumption on their net held assets that cash accounting is not designed to provide such information (IFAC Public Sector Committee, 2000). On the other hand, using a (full) cash basis greatly undermines stakeholders' ability to assess government accountability for resources. It does not provide any information on how to manage government assets and liabilities. This feature is the largest (complete) cash -basis constraint (Buti & Giudice, 2002)².

Considering the information above, the demand for an accrual basis in the public sector has been increasing. Accrual-based reports are more useful for accountability and decision-making (Iranshahi, 2009; Palot, 2001). Accrual accounting allows users to evaluate the reporting unit's accountability on the resources under its control and make decisions about supplying resources or doing transactions. (IFAC, 2011). Kordestani and Iranshahi (2009), in their research, concluded that accrual accounting has a greater ability to evaluate the effectiveness and outcomes of an organization's performance, and management can better cost the organization's activities. In addition, the accrual basis reflects better the long-term commitment of the organization and the overall financial

1- For more information please refer to the paper titled "Applying Accrual Accounting in Public Sector by Bagherpour et al 2012.

2- Buti and Giudice

situation. Babajani and Baghomian (2007) have also stated that the accountability system's basis is the accounting basis used. The most applicable basis in public sector accounting is the full accrual basis or minimum adjusted accrual basis. Schaik¹ (2004) also considers accrual accounting more favorable than traditional cash accounting because, in accrual accounting, expenditures are compared with performance goals rather than with agreed budgets. From the European Federation of Accountants (2007), the public sector should apply accrual accounting to understand its performance better. Accrual accounting, by providing tools for facilitating performance appraisal, expressing financial status, and evaluating financial flexibility, provides better planning, management, and decision making.

Universities and higher education institutions are no exception. These institutions are among the leading organizations in developing information systems because of their role in producing and disseminating knowledge in societies. Also, considering the dynamics of such organizations' environment and their impacts, universities' accrual basis is important and is necessary for universities to invest in it (Lagzian et al., 2013).

Karbasi Yazdi and Tarighi (2009) showed that using accrual basis in universities over other bases such as adjusted cash and cash basis has advantages such as improving managers' decision making, providing more transparent cost of services and activities, increasing managers' accountability, and providing the basis for preparing and formulating operational budgeting. Babajani and Madadi (2009) conclude in their research that all university and higher education and research institutes' earnings, except for research revenues, have the necessary and sufficient condition (ability to collect and measure) to use the accrual basis. Also, their costs at the time of recording are long-term capital assets and liabilities, which can be reflected in the basic financial statements.

3. Requirements (Prerequisite) for Implementation and Performance of Accrual System based on the Proposed Model

This section outlines the most important requirements and prerequisites for implementing and performing accrual accounting:

3.1. Acceptance and Support of Senior Manager

The senior manager's attitude and support of implementing and applying new systems and technologies play a key role in their success (Earl², 1993). This is done with the necessary knowledge and understanding of new systems and technologies. When managers realize that accrual accounting is in a way that their managerial performance is better reflected, they act better at accepting these changes. This acceptance is very effective in the process of implementing accrual accounting. The belief and management commitment is essential at all stages of system establishment and development. When a senior manager requires himself to establish the system, he will use his best efforts to implement and establish that system (Ketchell³, 2003).

3.2. Training Staff and Development of Training Programs to Increase Their Awareness and Technical Capability

Sufficient knowledge of the staff is an important factor in adopting and applying new systems and technologies. Users (staff) as users have focused much attention on scholars (Lyytinen & Hirschheim⁴, 1987; Earl, 1993; Arabmazar Yazdi et al., 2007;

1- Schaik

2- Earl

3- Ketchell

4- Lyytinen & Hirschheim

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Khedmati, 1993). Therefore, employees' technical knowledge of the new system can play a significant role in their acceptance and implementation. Otherwise, it will not be possible to imagine a long life due to the lack of staff familiarity with the new system's goals and attitudes, assuming its proper analysis and establishment. Accordingly, in order to establish accrual accounting, a systematic process of training staff (especially the accounting department) should be provided. It is also important to note that managers and employees of the various departments involved with accounting departments also have a significant role in establishing accrual accounting. Therefore, adequate arrangements, including workshops and training seminars, should be planned.

3.4. Identifying and Documenting Processes and Activities (Cycles)

In view of the explanations mentioned in the sections and considering that determining the cost of activities and preparing the operating budget of universities is the ultimate goal of establishing an accrual accounting system, identifying and documenting processes will be an integral part of the establishment of an accrual accounting system. For example, the main processes of a university may include:

Table 1. University Processes Name

Row	Process Title	Row	Process Title
1	Training management	7	Implementation and follow up of legal issues
2	Cultural and Social Management	8	Monitoring and Inspection
3	Student Services Management	9	Human Resource Management
4	Research and Technology Management	10	Information and Communication Technology Management
5	Strategic Management	11	Asset Management
6	Public Relations Management	12	Financial Resources Management

It is important to note that if in the new process (accrual accounting establishment), processes and activities change, such as organizational structure changes (hereinafter referred to), the processes, assuming the establishment of a new system, must be redesigned.

3.5. Modifying the Organizational Structure of the Accounting /Financial Management Sector in line with Accrual Accounting

Organizational structure is a framework that managers create to share and coordinate their organization's members' activities. Organizational structure is the set of patterns for relationships between members of an organization. This structure is formal because senior managers formally form it (Feizi, 2004). Considering that some accrual transactions need to be recorded and measured on a cash basis, the university must explain individuals' status and their duties in the new system. This will allow the organizational structure of the financial sector to be modified to the expected situation. This modification can include things like designing an organizational chart and describing new tasks for colleagues. The new organizational chart may include financial accounting, management accounting, and treasury (receipt and payment) sectors.

3.6. Suitable Platform for Mechanization of Processes

After identifying and documenting the processes and determining the new organizational structure, it is necessary to provide an appropriate platform for mechanizing the identified activities and processes. This will help establish the accrual accounting system, formulating the cost system of activities, and ultimately the operational budgeting system. Establishing an accrual accounting system can be a factor

to ideally lead the university information systems to integration.

3.7. Necessary Planning for Updating the Annual Accounts Information

Another factor that organizations need to consider for establishing accrual accounting is adequate planning for collecting annual account information. Information such as the book value of tangible fixed assets, intangible assets, accounts receivable and payable by natural and legal persons, or information on storing the employees' severance package. Such a program makes the information ready to be logged in while designing and establishing accrual accounting.

4. Comprehensive Model of Designing Accrual Accounting System

This section presents the process of accrual accounting system design. This process involves determining the content and designing the financial statement format, designing the coding of accounts, reviewing and identifying financial transaction activities, reviewing and redesigning the financial transactions operations flowchart, reviewing the rules and regulations governing each financial transaction activity, determining the title and code of financial transactions for each activity, reviewing the documentation and recording basis for identifying and registering financial transactions in each financial transaction, determining how to record and process financial transactions, determining information fields of extractable reports from each activity having a financial transaction and reviewing the forms used in each activity which has a financial transaction that is described below.

4.1. Determining the Content and Designing the Financial Statements Format

One of the accrual accounting system's important capabilities is providing basic financial statements per generally accepted accounting standards. As the final product of the financial reporting process, these financial statements provide useful information to users, especially external organizational individuals. Accordingly, the financial reporting process should be designed and established in a manner that, by observing relevant rules and standards, provide useful information to meet users' information needs. Therefore, to design an accounting system, one must first identify the existing information needs and requirements and then design the system in such a manner to provide it. Therefore, the sample financial statements and accompanying notes should be designed with due regard to legal requirements, public sector standards, and universities' specific requirements and conditions. Determining the content and format of the financial statements at this stage is the basis for designing the accounting coding as described below.

4.2. Designing Accounts Coding

Coding of financial accounts should be designed for two purposes 1) Observance of Public Sector Accounting Standards in Accounts Registration and Maintenance, and 2) Establishment of Activity Based Costing (ABC) and Operating Budget. This is due to universities' requirements (and other executive agencies) to establish and implement an operating budget. According to the stated objectives and also the existing information needs, the coding of the designed account based on the proposed model has four sections as follows:

A) Colleges and Centers

This model is based on the accountability of colleges and units to other relevant departments, so dedicating the first layer of accounts coding to determine the separate accounting entity (not legal) of the colleges and units will help achieve accountability better. In this regard, it is necessary that the approach of the reporting unit is converted

a from paying funds to the affiliated units to regulate an internal memorandum of understanding between the central organization and subsidiaries to allocate modified credit and secure credit before costing at the subsidiary unit as far as possible. Also, in the abovementioned memorandum of understanding, items such as ownership of land and buildings, manpower (number, type of employment, etc.), type and volume of activity, contracting, guidelines and by-laws, bank accounts and their authorized signatories, manner of contacting the center (for example, the selection of the dean of the faculty and how responsive it is) and, finally, manner of providing facilities, rendering services and selling potential products should be considered.

Table 2. Accounts Coding Format

A- Colleges and Centers	B- Financial Accounts				C- Detailed Accounts	D- Management Attention Centers		
Registries Code (Colleges and Centers)	Account Group	Total Code	Subsidiary Code	Sub- Subsidiary Code	Detailed 1 & 2 Code, Natural & Legal Persons	Process Code	Activity Code	Cost Center Code

According to the above, if the university's policy is to separate the affiliated units' entity, it should be considered to formulate its accounting coding. A subsidiary code should be created for each of the offices (colleges and other affiliated units). The above coding (at the beginning of logging in by the accountant of each faculty) is associated with the user code. All related operations are recorded in the accounting system under the same faculty name. This way, the university management can be informed about the status of each of the faculties and affiliated units and the university's overall status (with consolidated financial statements).

B) Affiliated Financial Accounts

Affiliated financial accounts are designed at the four levels of account group, total code, subsidiary code, and sub-subsidiary. This layer of accounts is solely related to financial statement items and their notes. In such a way that the group code of accounts derives from clause 8 of the Accounting Standard, the general section # 1 (manner of providing financial statements), the total code, based on the items forming financial statement, statement of changes in financial position, and account turnover changes in net value, and finally the subsidiary code relate to financial statements notes. Systematically, this part of the account code is interdependent. Their dependence means that, for example, defining and coding at a given level depends on the total account. Looking at the coding design process is always from part to the whole. This procedure is well illustrated in Table 3 (Accounts and Total Accounts Group).

Suppose all the universities in the country follow the unity of procedure in defining account codes at this level of accounts. In that case, it will be easy to make an aggregate accrual balance at the Ministry of Science, Research, and Technology level.

C) Detailed Account

The main part of accounting systems' analysis and design is based on information needs and required reports. In order to further describe the financial transactions and the ability to obtain the required reports, it is necessary for the system to hold another part of the financial information by further defining the affiliate financial accounts. For example, when receiving the cheques receivable, the debtor of the transaction includes,

account group, general account, and subsidiary accounts, respectively includes "current assets", "cash and bank accounts," and "documents and accounts receivable from the exchange operations". It is undoubtedly essential that the accounting system provides the ability to report on a person's information to be tracked. This level of accounts is referred to as a detailed account.

Table 3. Accounts and Total Accounts Group

Group Headings	Permanent Accounts				Temporary Accounts			Other	
	1	2	3	4	5	6	7	8	9
Arrangement of Total Account	Current Assets	Non-current Assets	Current Liabilities	Non-Current Liabilities	Equity	Revenue	Expenses	Non-Operating Expenses & Income	Budgetary, Contra & Control Accounts
1	Cash Balance & Bank	Tangible Fixed Assets	Documents and accounts payable from the exchange operations	Long-Term documents and Accounts payable	Net Value	Receivable from the Treasury out of Allocated Credits	Cost of services	Non-exchange Revenues (expenses)	Contra Accounts
2	Short-Term Investment	Intangible Assets	Documents & Accounts payable resulting from non-exchange operations	Other Long-Term Obligations (related to Grant)	Assets Revaluation surplus	Dedicated Revenue	Costs for Employee Compensation	Non-exchange grants received	Budgetary Accounts
3	documents and Accounts receivable from the exchange operations	Long-Term Investment	Advances	Long-term receivable, financial facilities	Foreign Operation, Exchange Difference	Exchange grants received	Cost of using Goods & Services	Increase or decrease in net value resulting from asset replacement	Contracts Control
4	Other documents and accounts receivable	Long-term documents and accounts receivable	Short-term receivable, financial facilities	storing the employees' severance package	Annual adjustment	Other Revenues	Financial expense and rent (properties and asset)	Donated Assets	Opening and Closing Accounts

5	Ongoing treaties	Fixed assets under completion	liabilities associated with assets held for sale		Net changes in a financial position		Grants	Non-exchange Revenue s (expense s)	
6	Inventories	Capital orders and prepayments	Documents & Accounts payable s resulting from exchange operations		Net value		Social Welfare (Premium and Subsidies)		
7	On accounts, orders, and prepayments	Other non-current assets	Documents & Accounts payable s resulting from non-exchange operations		Assets Revaluation surplus		Other expense		
8	Non – current assets held for sale						Cost of depreciation of assets		

Suggested coding includes detailed codes 1 and 2. Unaffiliated financial accounts are generally used for amounts recorded in financial ledgers and for reporting basic financial statements. The detailed account should be designed and coded so that it can be applied dynamically to all accounts. This feature makes it possible for the accounting system, due to using a single account code, to report the net balance of an individual account if individuals have balance in both "Accounts Receivable from Exchange Operations" and "Accounts Payable from Exchange Operations". Depending on how to apply and the management's requested reports, this account can also consist of two levels of detail 1 and 2.

According to Table 4, the "Detailed Accounts Group One" is used in order to create coding for banks, as follows:

- 1- Code 11 related to the detail group number is assigned to bank accounts.
2. If the bank account belongs to the college or central organization, the relevant code is used. (for example, Central Organization-111, Faculty of Literature-112, etc.)
3. If the relevant account is current, deposit, etc., a number is assigned to it (current-1, short-term deposit-2, etc.)
4. The bank's name to which the relevant account belongs also includes two digits that should be paid attention to by detailed coding (for example, Bank Melli-11, Bank Mellat-12, etc.).
- 5- If the relevant account is Rials from code 11, it will be allocated from 21 to 99

depending on the currency.

Finally, according to the above information, the "Detail Code 1" number for the short-term Rial Account of the Bank Melli opened by the Faculty of Literature will be 11,112,02,11,11. The following Table (4) indicates the manner of numbering a detailed account 1:

Table 4. Numbering Detail Code 1

Detail Group	Group Name	From Code	To Code	Detail 1				
				Account Row	Bank Name	Type of Account	Faculty	Detail Group
11	Bank Accounts	11,111,01,11,11	11,999,999,999	Account Row	Bank Name	Type of Account	Faculty	Detail Group 11
12	Warehouses			Type of Warehouse	Faculty		Detail Group 12	
13	Faculties & other Depts.			Registry Code				
14	Employees			According to the Personnel Code of Employees				
15	Students			According to the Student Code of Students				
16	LCs	1700000001	17999999999	Detail Group 16				
17	Seminars & conferences	1811110001	1899999999	Row	Group (Seminar, Conference)	Faculty	Detail Group 17	
18	Tests	19931100001	1999999999	Row	Test Level	Test Year	Detail Group 18	

For the future use of financial information, such as integrating information at a more (external) level than the University, Level 2 is used. Using this level of accounts, accounts are used for natural persons by the national code and legal entities by their economic numbers. This procedure causes the floating of individual accounts is used beyond the level of universities' registries. For example, legal entities working as contractors at the Ferdowsi University of Mashhad also work at other universities in the country with the same economic ID number, and their records will be traceable prior to entering into a contract. Also, this part of the information helps speed up the preparation of seasonal reports. It is anticipated that if all universities follow a united procedure in defining detail codes 2, useful information will be collected from all the universities throughout the country that can be exchanged.

D) The Focus of Management

As mentioned in table 2, the focus centers have three levels: 1) processes, 2) activities (cycles), and 3) cost centers. Creating these levels is to manage better and control the performance of different departments of the university. The administrator of identifying university processes creates the first and second levels (processes and activities). In case of necessary and probable changes in their naming and numbering, the relevant unit will be the only authority authorized to make possible corrections. In case of counting all the university's operational activities (assuming they are mechanized), the financial transactions that occur in each of them will be mechanically entered into the accrual accounting portal. These levels of accounts will be used to calculate the cost of each university's activity.

Level 3 of this layer of accounts is referred to as cost centers and, for example,

a consists of training courses (specifically training course name), seminars (specifically seminar name), queuing and staffing organizational units (such as receiving and paying headquarters, management department, security department and other common cost centers including public services). The cost centers designed in the accrual accounting system should be closely related to other subsystems' cost centers, such as payroll. Also, at a separate cost center code should be designed for each registry of the registries created.

4.3. Analyzing and Determining (Identifying) the Financial Transactions Operating Activities

This section assumes that university processes and activities are documented. Investigating these processes results in identifying activities that contain a financial transaction. These transactions need to be identified from an accrual accounting approach. The basics for identifying these transactions are documents, forms, accounting standards requirements, guidelines, laws, and regulations governing the university, which are discussed later in this article.










4.4. Reviewing and Redesigning a Financial Transaction Operating Activities Flowchart

The accrual accounting system is designed based on the university's processes and activities. Therefore, identifying the financial transactions of each activity requires reviewing its operations flowchart. Since the university's accounting system is a cash system, existing and documented activities have been formed. Due to the differences between the two systems of accrual and cash accounting, for establishing an accrual accounting system, some of the university's current activities need to be changed, and new activities, including the process of allocating costs to colleges, have to be defined and created. Therefore, it is necessary to take appropriate measures to redesign the financial transaction operating activities' flowchart. An example of the "in-person enrollment" activity from the "University Education Process" set of activities along with the financial transaction identification points has been redesigned as follows:

4.5. Reviewing the Rules and Regulations Governing any Activity with Financial Transaction

Undoubtedly, each activity's laws and regulations guide and determine the type of financial transaction, the point of occurrence, the time and manner of its identification. For example, inactivity number 21014 titled "In-person enrollment of students" financial transaction 3006 (Refund of student tuition - University College) has been identified under the relevant laws and regulations (clause 3 of Article 5 of the laws and regulations of university college- higher educations). It is not possible to return the tuition of the students who have dropped out the education. In exceptional conditions and subject to the agreement of the higher education office of the relevant department, the student giving up participating in the training course, in case the date of their drop out is 10 days before commencement of semester, the paid tuition shall be refunded upon deducting an amount equals to 30%. The tuition will not be refunded after the beginning of the course. Accordingly, the laws governing the activities of the university can be studied in the following three areas.

Process Name: 21000- Education										
Activity Name (Cycle): 21014 Student In-Person Registration (Applicants)	Paying & Receiving Dept.	Financial Director	Relevant Director	College Accounting	Applicant (Individual or Organization)	Higher Education Office Advisor	Financial Transaction		Description	Row
							Name	Code		
									Start	1
									Introducing Course/Seminar /Workshop & informing required documents for the applicant enrollment	2
									Providing required documents and paying enrollment fee	3
									Receiving and reviewing receipt of required document. Whether it is verified or not?	4
									Informing the applicant of his document deficiencies	5
									Receiving the filled worksheet, reviewing satisfying conditions, enrolling and determining student number and delivering student card to the applicant – submitting receipts to accounting dept.	6

Process Name: 21000- Education									
Activity Name (Cycle): 21014 Student In-Person Registration (Applicants)									
Paying & Receiving Dept.	Financial Director	Relevant Director	College Accounting	Applicant (Individual or Organization)	Higher Education Office Advisor	Financial Transaction		Description	Row
						Name	Code		
						Collecting advances for holding training courses	3001	Receiving receipts from the office advisor	7
								Submitting application of withdrawal from enrollment before course start date	8
								Confirmation of education office advisor and referring to the relevant director	9
								Reviewing and verifying withdrawal application	10
								Reviewing and verifying application & referring to receiving and paying dept.	11
						Refund of student tuition fees - University College	3006	Refund to the applicant for enrollment fee in accordance with the laws and regulations and approval of the Education Dept. advisor and taking into account the rest of the fund to income.	12
								Providing students list	13

Activity Name (Cycle): 21014 Student In-Person Registration (Applicants)							Process Name: 21000- Education			
Paying & Receiving Dept.	Financial Director	Relevant Director	College Accounting	Applicant (Individual or Organization)	Higher Education Office Advisor	Financial Transaction		Financial Effects	Description	Row
						Name	Code			
						Considering revenues collected in advance	3013	yes	Receiving final list of students from advisor	14
									Filing required documents	15

Diagram (1) Operation Flow

a **A- National Laws and Regulations**
The constitutional law, financial tribunal, five-year development plans, and other relevant laws and regulations in this field

for
an
B- Specific Laws and Regulations of Universities and Institutes of Higher Education, Research and Technology

at
Such as financial and business by-laws of universities and institutes of higher education, research and technology (new and old), public sector accounting system of 2018, circulars No. 15/6271 (dated 21/10/2009) and No. 15/1812 (dated 28/05/2008) issued by the Ministry of Science, Research and Technology and circular No. 51/67/54 (dated 01/04/2003) issued by the Ministry of Economic Affairs and Finance.

C- The University's Internal Rules and Regulations

Such as board of trustees' approvals, the university board of directors approvals, internal university guidelines (including Growth Bylaw, Grand Plan, etc.).

4.6. Determining the Title and Code of Financial Transactions for each Activity with a Financial Transaction

Based on the steps outlined above and the proposed procedure, financial transactions are identified at their occurrence point and coded for recording and processing ease. These transactions can be defined in two levels as follows

A) Transaction group (for example, financial transactions group related to public and private income accounts, salaries and fringe benefits of employees and retirees, expense accounts, inventory accounting, long-term contract accounting, tangible and intangible fixed assets accounting, receipt and payment, opening and closing of Accounts)

B) Financial transaction. Points of occurrence of financial transactions are points in the operational flowchart in which the transaction or financial activity is identified based on supporting documents. For example, by examining the operation flowchart of cycle No. 21014 titled "In-person enrollment of students," which is the subset of the training process, has been identified at the point or time section specified in the chart (after processing under the income system) financial transaction (in steps 7, 12 and 14). As can be seen in step 8, financial transaction code 3001, titled "Collecting advances for holding training courses", which is a subset of the group "Financial transactions related to general and dedicated revenues and", has been occurred which the approach of accrual accounting related to that is discussed hereunder.

4.7. Reviewing Documents and Evidence which are the basis for Identifying and Recording Financial Transactions in each Activity with Financial Transaction

Those financial transactions are identified and recorded in registries based on supporting documents (verified and approved by authorized authorities). These supporting documents are the basis for issuing an accounting document. For example, the deposit voucher for the above advances transaction is the basis for issuance of accounting document of transaction No. 3001 titled (advances for holding training courses).

4.8. Determining how to Record and Process Financial Transactions

Financial transactions should be recorded at the relevant accounting registries after identification. In order to create a uniform and similar procedure for recording financial transactions, a guideline should be provided in which the manner of recording accrual accounting of all these transactions is mentioned. This guideline should be formulated regarding what is described in the section "Reviewing the Rules and Regulations

Governing any Activity with Financial Transaction" and the university's general policy based on separating the colleges and units' accounting entity. If the procedure is based on the accounting entity's separation, the financial transactions between these centers will be recorded separately and independently at the accounting registries. For example, as for financial transaction of paying lecturer wage in which classes are held at the college, and the center pays for it (financial transaction code 6048), accounting records are provided under Table (5). As shown in the recording above, the center pays the lecturer's wage on behalf of the college, and subsequently, its debts are deducted from the college's current budget. Meanwhile, according to the debit/credit note, this payment is notified to the relevant college. The college identifies the cost on the one hand and, on the other hand, deducts their claims from the center being the share of the current budget. In this connection, the rules and regulations governing this activity are in Table 6, and the accounting registration method is described as follows.

Table 5. Accounting Registration Methods Guidelines in Central Organizations Registries and Other Units

Financial Transaction: 6048) Paying Lecturer's Wage					
Registry: Central Organization					
Manner Setting Prices	Credit	Debit	Cost Center	Detail	Relevant Accounts: General, Subsidiary, Sub-Subsidiary
Debit/Credit Note		*		Colleges, Research Centers and Other Units	11, 13,31) Documents and accounts payable from the exchange operations- Accounts payable from short-term Rials transaction
	*				11,12,11) Cash and Bank Inventory - Banks - Rial
According to 3% of Costs (cost document summary)	*				23, 12,32) Documents and accounts payable from the non-exchange operations- Short-term accounts payable – withholding tax
Office: Colleges and Units					
Manner Setting Prices	Credit	Debit	Cost Center	Detail	Relevant Accounts: General, Subsidiary, Sub-Subsidiary
		*	Department		73,16,30) Cost of using goods and services - fees for contractual services - tuition
Debit/Credit Note	*			Central Organization	11, 15,13) Documents and accounts payable from the exchange operations- Accounts payable from short-term Rials transaction

4.9. Determining Information Fields of Reports that can be extracted from any Activity with Financial Transaction

One of the goals of accrual accounting is to prepare and present various management reports that can help managers monitor and make decisions better. Accordingly, for all financial activities, the extractable reports and related information fields should be determined. This can provide the basis for establishing the required information system. For example, information extractable from Activity Number 21014 titled "In-person enrollment of students" has been provided in Table No. 6.

Table 6. Rules and Regulations Governing Transaction

Row	Rules Description	Title
1	Payment of research fees, tuition fees, author's fee, wage, attendance fees, counseling fees, etc. The subject of these guidelines is subject to approved by-laws. It can be paid up to a maximum of 50% upon the discretion of the head of the earning unit and in exceptional cases, with the proposal of the head of the department and with the agreement of the head of the institution or authorized authority, up to 100% in addition to the amounts inserted in the approved by-laws.	Financial and Transaction Bylaw of the University: (Attachment 1, Clause 1, Article 6)
2	The tuition fees for teaching staff are set by the Ministry each semester up to the determined maximum. Anyway, the amount of the member's tuition fee shall not exceed the maximum set by this Note.	Employment by-laws of faculty members of universities and Institutes of Higher Education, Research and Technology: (Note 1 Article 32, Chapter 4)
3	The Institute may use the services of its faculty members or other universities and institutes of higher education, research, and technology with the written consent of the institution of their place of employment for teaching or research in exchange for payment of tuition or research fees under the provisions of this article. " 62 " of this by-law.	Employment by-laws of faculty members of universities and Institutes of Higher Education, Research and Technology: (Article 32, Chapter 4)
4	The Institute may use the services of those who have an academic degree and are not faculty members whose academic competence in one of the academic majors has been approved by a committee composed of the Institute's Head Representative and the Educational Assistant of the offeror college and director of relevant department as "lecturer" for teaching against paying tuition fee according to Article 63 of this by-law.	Employment by-laws of faculty members of universities and Institutes of Higher Education, Research and Technology: (Article 32, Chapter 4)
5	In case the employees have to perform services out of the office on request of the organization, according to the by-law approved by the cabinet upon the recommendation of the Organization, some amounts can be paid under overtime, research fee, tuition fee, wage, and author's fee to each employee, total amounts paid as overtime and tuition fee to each employee shall not exceed the maximum (50%) of their fixed salary and bonuses. In each organization maximum of 20% of employees, who work overtime more hours, are exempted from the limit of 50 %.	Civil Services Management Act (clause 9, article 68, chapter 10)

Table 7. Extractable Information from the Activity In-Person Enrollment of Students

Row	Title	Row	Title
1	Workshop Title	5	Lecturer Name
2	Workshop Tenure	6	Number of Participants
3	Workshop Holding Period	7	University Revenue
4	Workshop Holding Place		

4.10. Reviewing and Modifying the forms used in any Activity with Financial Transaction

Since the forms used in each cycle/activity are a necessary tool for recording and gathering the information needed to prepare extractable reports and eventually establishing the information system required for the university (including accrual accounting) and also taking into account that the forms available have been designed based on the cash system, all existing forms must be reviewed. The necessary corrections (to achieve the goals above) are made.

5. Conclusion

The accrual accounting system can enhance the effectiveness, efficiency, and accountability of the university. Therefore, this study sought to provide a

comprehensive and practical model for designing and establishing the system above in universities while explaining the prerequisites and required framework. The system above has been designed appropriate to Iranian universities' conditions and environment and has proven its function and effectiveness in practice. This model can be used as a guide for designing the system above in other operating systems (public sector). By presenting the model above, we can take a small step towards increasing transparency, accountability, efficiency, and effectiveness in the public sector, especially the university.

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