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**Transition Requirements of Accrual Accounting in the  
Public Sector of Developed and Developing Countries:  
Statistical Analysis with Special Focus on Netherlands  
and Egypt**

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**Transition Requirements of Accrual Accounting in the Public Sector of  
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With special focus on the Netherlands and Egypt**

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**Abstract:**

In recent years, transition to accrual accounting in the public sector has been the major focus of policy makers and specialists. While there are some empirical studies that have investigated the success of the transition to accrual accounting in the public sector and conducted a statistical analysis which is required *to* find out the significance of differences of the transition requirements between the developed and developing countries, there is a total lack of a statistical analysis which is required to find out the significance of differences of the transition requirements within the developed and developing countries. This is in addition to the correlation analyses among the transition requirements within both developed and developing countries. Therefore, the original purpose of this paper is to fill a gap in the literature by performing the required statistical analyses. The conclusions of the test results with respect to the significance of differences of the transition requirements *within* the developed and developing countries have indicated that the significance of the transition requirements and their influence on the transition process within each country apart are most consistent with the nature of both countries. In addition the test results of the correlation have indicated that the transition requirements (supporting factors) are differently correlated within both the developed and developing countries.

**Keywords:** Accrual Accounting in the Public Sector; Transition Requirements Developed and Developing Countries: the Netherlands and Egypt

## **1- Introduction**

In recent years, transition to accrual accounting in the public sector has been the major focus of policy makers and specialists. The transition to accrual accounting is being undertaken as a primary goal of making the government transactions more transparent. Accordingly, there are a number of studies that have dealt with the transition requirements. Some of these studies have tackled the requirements in form of lessons learned from the experience of earlier reformer countries such as New Zealand and Ireland (Scott, 1996, Ball, 2000 and Treacy, 1996). Other studies have dealt with the requirements as factors affecting the success of implementation (Pallot, 2002 and IF AC, 2002). Other study has called them as condition precedent to the introduction of accrual accounting (Hepworth, 2001). While the above-mentioned studies provide some disparate explanations for the factors that can support the implementation of accrual accounting in the public sector, none of these studies have tackled the transition requirements in detail. However, these studies are more associated with the circumstances of the developed and democratic countries. None of these studies have dealt with the transition requirements in less, democratic and developing countries. To fill the void, a Basic Requirements Model (BRM) for successful implementation of accrual accounting in the public sector of developed and developing countries has been developed (Ouda, 2001,2004). In fact, the implementation of accrual accounting in the public sector is not an easy task due to its specific nature and requirements. Basically, the implementation of accrual accounting needs collaboration of a set of factors to create conditions appropriate for its introduction and to put it into practice. The Basic Requirements Model has attempted to set out these factors. However, none of the aforementioned studies have empirically confirmed and investigated the transition requirements. While there are some empirical studies that have investigated the success of the transition to accrual accounting in the public sector and conducted a statistical analysis which is required to find out the significance of differences of the transition requirements between the developed and developing countries (Ouda, 2005 and 2006), there is a total lack of a statistical analysis which is required to find out the significance of differences of the transition requirements within the developed and developing countries. This is in addition to the correlation analyses among the transition requirements within both developed and developing countries.

Therefore, the original purpose of this paper is to fill a gap in the literature by performing the required statistical analyses. While the transition requirements are considered as independent variables and the transition to

accrual accounting is considered as dependent variable, the independent variables themselves within each (country) group are likely not independent (are likely correlated). Therefore, it is necessary to take into account the correlation between the factors being tested due to the fact that they come from the same (country) group. Consequently, the primary purpose of this paper is twofold:

- Detection of the significance of the differences of the factors (transition requirements) that can facilitate the transition to accrual accounting *within* the developed (e.g. the Netherlands) and developing countries (e.g., Egypt); and
- Examining to what extent are the transition requirements correlated *within* the developed (e.g. the Netherlands) and developing (e.g. Egypt) countries?

The paper is structured as follows: Section 2 describes the theoretical development of the transition requirements and proposes a conceptual model. Section 3 describes the research methodology and data collection and answers the question why the Netherlands and Egypt have been chosen as a representative for both developed and developing countries respectively. Section 4 focuses on detection of the significance of the differences of the transition requirements within developed countries (e.g., the Netherlands) and developing countries (e.g., Egypt) separately. Section 5 discusses the correlation among the supporting factors (transition requirements) in both the Netherlands and Egypt. Finally, section 6 is devoted to the conclusion.

## **2. Theoretical development**

The Basic Requirements Model (BRM) implementation framework specifies the basic requirements (supporting factors) that should be available if a certain country confirmed its intention (decided) to implement accrual accounting in the public sector (Ouda, 2004). These factors (the basic requirements) are reflected in the following equation:

$$AC (ps) = f (MCC + PBS + PAS + CS + WC + CC + BAC + SAI + ABC + ITC)$$

The BRM has also demonstrated that the aforementioned basic requirements are essential and critical for both developed and developing countries. In addition, the successful implementation of accrual accounting in the public sector of the developing countries has required one more basic requirement, which is the *International Financial Support (IFS)*. Consequently, the implementation of accrual accounting in the developing countries requires:

$$AC (ps) = f (MCC + PBS + PAS + CS + WC + CC + BAC + SAI + ABC + ITC + IFS)$$

**Where:**

AC (ps) = Accounting Changes (transition to accrual accounting in the public sector (ps))

f = function

MCC = Management Culture Changes (NPM- New Public Management);

PBS = *Political and Bureaucracy Support* (legislative, executive and bureaucracy support);

PAS = Professional and Academic (advisory) Support (in the accounting field);

CS = *Communication Strategy* (includes booklet, journal, conferences, seminars, etc);

WC = *Willingness to Change* (staff motivation, will, and training and qualification);

CC = *Consultation and Co- ordination* (an essential step for central guidance accounting change);

BAC = *Budgeting of Adoption Costs* (for the whole implementation period);

SAI = *Tackling of Specific Accounting Issues* (assets identification and valuation, assets register, reporting entity, opening balances, etc.);

ABC = Accounting and Budgeting Consistency (integration); and

ITC = *Information Technology Capability*; and

IFS = *International Financial Support*.

While the BRM implementation framework emphasizes the relevance of the basic requirements (supporting factors) in fostering the successful implementation of accrual accounting in the public sector of both developed and developing countries, it does not provide a clear picture of the significance of these requirements and their impact on the transition process. Moreover, the BRM has treated the political (including both executive and legislative) and bureaucracy support as one factor. Due to practical importance of this factor, it is decomposed into three factors: political commitment, legal provision and bureaucracy support. This further can assist in detection of the significance of these three factors separately.

In addition to the above mentioned factors, reviewing the public sector accounting reform literature has revealed that different studies (for example Ball, 2000 and Schick, 1999) have given the unitary government more weight in positively affecting the implementation of accrual accounting in the public sector in comparison with the coalition government. Ball (2000) argued that the unitary government can easily take the reform decision and could move faster and accomplish more by prescribing a course of action than the coalition government which it may be obliged to dilute its program to gain coalition support. Accordingly, these studies assume that the *form of government* can positively affect the transition process to accrual accounting. Moreover, other studies have assumed that the *adoption and adaptation of national GAAP (Generally Accepted Accounting Principles)* can facilitate the implementation of accrual accounting in the public sector (Lundqvist, 2001, Hepworth 2002 and Ball, 2000). For instance, Ball (2000) stated that the accounting reform moved much quicker because the adoption of GAAP facilitates the flow of staff and expertise between the public and private sectors. Public sector finance staff can be hired from the private sector with little need to learn a “government-only” accounting system, and the public sector can draw on systems and development skills already existing in the private sector. Without question, this contributed to the speed with which accrual accounting was implemented. 30 based on the BRM and prior literature (Ball, 2000; Schick, 1999; Luder 1992, 1994, Luuderist, 2001 Hepworth 2002 and Pallot 2002) and the experience of the earlier reformer countries, the transition requirements have been determined. The following two equations summarize the *proposed conceptual model*:

*Transition to accrual accounting in the public sector of both developed (1)*

and *developing countries* = f (political commitment, bureaucracy support,

legal provision, form of government, professional and academic bodies

(advisory) support, adoption and adaptation of private sector GAAP, communication strategy, willingness to change, management culture change,

co-ordination and consultation, tackling of specific accounting issues,

budgeting of adoption cost, budgeting and accounting consistency, information technology capability).

In addition to these factors (requirements), the transition to accrual accounting in the developing countries requires one more requirement as follows:

*Transition to accrual accounting in the developing countries = f (international (2) financial support).*

This model is used to assess the significance and influence of the supporting factors on the transition to accrual accounting within developed and developing countries. Reviewing the public sector accounting reform literature has revealed that this relationship has not been statistically analyzed. Consequently, the conceptual model has raised the following four questions:

- Do the transition requirements (supporting factors) have the same significance *within* the developed (Netherlands) and developing (Egypt) countries?
- Which transition requirements are considered to be more important in comparison with the other requirements *within* the two countries separately?
- What is the influence of each requirement (supporting factor) *within* each country on the transition process in comparison with the other requirements?
- To what extent are the transition requirements correlated *within* the developed (the Netherlands) and developing (Egypt) countries?

### **3. Research methodology and data collection**

#### **3.1 Research community (organizational level)**

While it is argued that the Ministry of Finance is most concerned with the government accounting reform, the intention was to encompass different bodies in order to enrich and reinforce the credibility of the empirical research results and to get more comprehensive picture regarding the transition requirements from the standpoint of different bodies in the two countries at the central government level. Accordingly, the chosen research community consists of:



**Table 1: Research community**

<b>In Egypt</b>	<b>In the Netherlands</b>
<ul style="list-style-type: none"><li>– Ministry of Finance</li><li>– Central Auditing Organization</li><li>– Agencies</li><li>– Different Ministries</li><li>– Academics</li></ul>	<ul style="list-style-type: none"><li>– Ministry of Finance</li><li>– Dutch Court of Audit</li><li>– Agencies</li><li>– Different Ministries</li><li>– Academics</li></ul>

### **3.2 Method of data collection**

In gathering the research data, we have used structured interviews based on open questions; structured interviews based on open and closed questions; and self-administered questionnaires (based on open and closed questions). The structured interviews have assisted in getting more insight into practical issues regarding the transition requirements of accrual accounting within the central government of the Netherlands and Egypt. Based on these data, we designed a questionnaire with closed questions in order to get standard answers enabling us to apply a statistical technique. 300 questionnaires (150 for the Netherlands and 150 for Egypt) were prepared and sent to the respondents. The respondents were accountants, financial managers, auditors, chief executives and academics. The data collection process in the two countries has resulted in 119 responses from the 300 (gross response rate of 39.6%).

**Table 2: Results data collection process**

	<b>Absolute numbers</b>	<b>Percentage related to target population</b>	<b>Percentage related to returned surveys</b>
Target group	300	100%	NA
Total number of surveys returned	119	39.6%	100%
The Netherlands	54	36%	45.37%
Egypt	65	43.33%	54.63%

## **4. Detection of the significance of the differences of the transition requirements within the Netherlands and Egypt separately**

### **4.1 Statistical technique**

Considering the fact that the main purpose of this paper is the detection of the significance of the differences of the transition requirements of accrual accounting *within* the developed and developing countries (e.g. the Netherlands and Egypt), it is important to select a statistical technique that can achieve this purpose. In the statistical literature, the common statistical technique which is used to determine if there is a statistical “significant” difference between means of two groups is: t-test. The t-test is used to compare two means. In fact, there are two distinct applications of the t-test that make it appropriate for the current study. When a between-subjects design is used, the t-test for independent samples is the appropriate test. When a within-subjects design or a subject -by-subject matched design is used, the t-test for paired samples is the suitable test. It is extremely important to distinguish clearly between paired and independent means t-test as each test rests on different assumptions. The paired test assumes that the variables of interest are correlated whereas the independent test assumes that the variables of interest are unrelated. So, the t-test for paired samples examines differences between two measurements from the same group of subjects (e.g. within each country apart). Similarly, the statistical procedure tests the null hypothesis that the means of two variables in one population sample are equal.

Therefore, we shall use the t-test for paired samples. The paired sample t-test is used to assess the significance of difference between means of two variables (factors) in one group (country). Then, mean scores are compared using paired t-test to determine if the impact of each supporting factor (requirement) on the transition to accrual accounting (within the central government of the Netherlands and Egypt) in comparison with the other factors is significantly different. So the decision rules are:

- If (p) value < .05, reject null hypothesis; the difference is probably not due to chance and then the difference is significant.
- If (p) value > .05, accept null hypothesis; the difference is probably due to chance and then the difference is not significant.

So we are most interested in the means of the two groups and the p-value.

## 4.2 Detection of the significance of the differences of the transition requirements

(supporting factors) within the Netherlands and Egypt apart

Section 2 of this paper has identified a number of the transition requirements (supporting factors) that can have a positive impact on the implementation of accrual accounting in the public sector. In order to facilitate the statistical analysis, each factor will be given a certain code. The following factors have been identified and will be analyzed in more detail within each country apart:

- |  |           |
|--|-----------|
| - Political Commitment                           | - POLCOM  |
| - Bureaucracy Support                            | - BURSUP  |
| - Form of Government                             | - FORMGOV |
| - Professional and Academic Bodies Support       | -PABS     |
| • Adoption and Adaptation of Private Sector GAAP | - AAPSGAA |
| - Communication Strategy                         | - COMSTRA |
| - Willingness to Change                          | - WTC     |
| - Management Culture Change                      | -MCC      |
| - Legal Provision                                | -LEGPRO   |
| - Co-ordination and Consultation                 | -COORDCO  |
| - Budgeting of Adoption Cost                     | -BAC      |
| - International Financial Support                | - IFS     |
| - Budgeting and Accounting Consistency           | -BACON    |
| - Tackling Specific Accounting Issues            | -TSAI     |
| - Information Technology' Capability             | -ITC      |

In addition, the statistical analysis takes into consideration the correlation among the supporting factors (independent variables) due to the fact that these factors are not likely independent within the same group (country).

#### 4.2.1 The Netherlands:

This section analyzes the significance and impact of the transition requirements (supporting factors) on the transition process to accrual accounting in the central government of the Netherlands in comparison with each other. Based on the test results, table 4.1 shows a total picture about the significance of each supporting factor in comparison with the other supporting factors in the Netherlands. As it is mentioned in section 4.1 we are most interested in means of the two groups and p-value. So table 4.1 presents the means of the supporting factors (row No.3), mean difference and p-value

MD = Mean Difference

PV = p- value Sig. (2- tailed)

The column NR.1 shows the Mean Difference (MD) and P Value (PV) between the communication strategy (COMSTRA) and all other factors. Column NR.2 shows the MD and PV between the budgeting and accounting consistency (BACON) and the other factors. Similarly, the columns from 3 till 15 show the MD and PV between the factor in question and the other factors.

**In addition, the following rules can generally guide us in grouping the supporting factors whether in the Netherlands or in Egypt:**

- 1- When the test results do not produce statistical differences among some factors and show significant differences between these factors and the other factors, these factors can be grouped under one group.
- 2- The smaller the mean difference among the factors is, the fairly equalled the role that these factors can play as supporting factors and be grouped under one group.
- 3- The factors that had the highest mean scores and the smallest mean difference in comparison with all the other factors will be grouped as profound supporting factors and the second as very important supporting factors, the third as important supporting factors and the fourth as moderately important factors.
- 4- The factors that had the smallest mean scores and the biggest mean difference in comparison with *other* factors are considered as deletion factors.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	COMSTRA	BACON	ITC	POLCOM	COORDCON	WTC	LEPRO	MCC	BURSUP	TSAL	AAPSGAAP	BAC	PABS	FORMGOV	FIS
MEAN	4.3241	4.2143	4.2054	4.1882	4.1728	4.0972	4.0615	4.0240	3.9151	3.8990	3.8703	3.7778	3.3945	2.9269	1.8704
1 COMSTRA	MD .1098														
2 BACON	PV .172														
3 ITC	MD .1187														
4 POLCOM	PV .123														
5 COORDCON	MD .1389	.0291	.0202												
6 WTC	PV .133	.745	.689												
7 LEPRO	MD .1512	.0415	.0326	.0124											
8 MCC	PV .073	.611	.689	.890											
9 BURSUP	MD .2269	.1170	.1082	.088	.0766										
10 TSAL	PV .004	.110	.179	.306	.446	.0357									
11 AAPSGAAP	MD .2626	.1628	.1438	.1237	.1114	.0857									
12 BAC	PV .009	.128	.135	.262	.270	.690									
13 PABS	MD .3001	.1903	.1814	.1612	.1488	.0732	.0375								
14 FORMGOV	PV .008	.130	.129	.135	.204	.861	.726								
15 FIS	MD .4281	.3037	.2903	.2712	.2876	.2124	.1574	.1025							
	PV .013	.073	.085	.128	.068	.189	.317	.817							
	MD .4251	.3163	.3064	.2882	.2738	.1982	.1625	.1250	.0161						
	PV .011	.066	.065	.086	.095	.113	.128	.115	.758	.0287					
	MD .4278	.3405	.3381	.3028	.2884	.2114	.1760	.1280	.0577	.885					
	PV .017	.047	.007	.071	.103	.240	.287	.513	.799	.1212					
	MD .5453	.4365	.4276	.4074	.3851	.3194	.2837	.2462	.1504	.1011					
	PV .000	.000	.000	.000	.001	.003	.009	.020	.317	.456	.515				
	MD .9296	.8198	.8109	.7907	.7764	.7028	.6670	.6295	.4987	.5045	.4425	.3833			
	PV .000	.000	.000	.000	.000	.000	.000	.005	.005	.000	.019	.001			
	MD 1.3981	1.2983	1.2786	1.2693	1.2469	1.1713	1.1386	1.098	.9935	.9731	1.0048	.8519	.4685		
	PV .000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.018			
	MD 2.4537	2.3439	2.335	2.3148	2.3028	2.2269	2.1911	2.1536	2.0523	2.0286	2.0241	1.9074	1.2541	1.0866	
	PV .000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	

Table 4.1 the significance and impact of the supporting factors on the transition to accrual accounting in the Dutch central government in comparison with each other.

Based on the test results of table 4.1, table 4.2 summarizes the significance of each

supporting factor in comparison with the other supporting factors in the Netherlands.

**The table 4.2 can facilitate the grouping the supporting factors as follows:**

<b>The Netherlands</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
1 COMSTRA															
2 BACON															
3 ITC															
4 POLCOM															
5 COORDCON															
6 WTC	x														
7 LEGPRO	x														
8 MCC	x														
9 TSAI	x														
10 BURSUP	x														
11 AAPSGAAP	x	x	x												
12 BAC	x	x	x	x	x	x	x	x	x						
13 PABS	x	x	x	x	x	x	x	x	x	x	x	x			
14 FORMGOV	x	x	x	x	x	x	x	x	x	x	x	x	x		
15 IFS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

Table 4.2: Significance of each supporting factor in comparison with the other supporting factors in the Netherlands

X = Significance

**Based on the test results, the supporting factors in the Dutch central government can be segregated into four groups as follows:**

***Group 1- Profound Supporting Factors:***

- Communication strategy (COMSTRA);
- Budgeting and accounting consistency (BACON);

- Information technology capability (ITC);
- Political commitment (POLCOM); and
- Co-ordination and consultation (COORDCON).

***Group 2- Very Important Supporting Factors:***

- Willingness to change (WTC);
- Legal provision (LEGPRO);
- Management culture change; (MCC)
- Tackling specific accounting issues (TSAI);
- Bureaucracy support (BURSUP); and
- Adoption and adaptation of private sector GAAP (AAPSGAAP).

***Group 3- Important Support Factors:***

- Budgeting of adoption costs (BAC); and
- Professional and academic bodies support (PABS).

***Group 4- Deletion Factors:***

- Form of government (FORMGOV); and
- International financial support (IFS).

The test results of tables 4.1 and 4.2 indicate that the communication strategy (COMSTRA), budgeting and accounting consistency (BACON), information technology capacity (ITC), political commitment (POLCOM) and coordination and consultation (COORDCON) do have a sweeping and overwhelming impact on facilitating the implementation of accrual in the Dutch central government in comparison with all the other factors. The results reveal that there are statistical significant differences between these five factors and most of the other factors (the observed differences are significant at .05 level). While the test results produced statistical significant differences between these five factors and the other factors, they did not produce statistical significant differences among these five factors. Furthermore, these five factors had the highest mean scores and the smallest mean difference in comparison with all the other factors. In terms of mean

difference, the smaller the mean difference, the fairly equalled the role that these five factors can play as supporting factors, which means that the communication strategy, budgeting and accounting consistency, information technology capacity, political commitment and co-ordination and consultation are playing to a great part an amounted role in facilitating the implementation process of accrual accounting in the Dutch central government. In fact, this implies that the Dutch respondents have realized that there should be (from the outset) a widespread understanding of the nature of the new and radical accounting changes. The communication efforts are essentially important to describe the elements of the reform and the nature of the new legislation, explain the new ideas, guide the accounting transition process, and clear up the misunderstanding that can take place during the implementation process. Moreover, the Dutch respondents have recognized the importance of the information technology capacity, as Dutch respondents are accustomed to working with accounting computerized systems whether in the public or private sector, and they are well aware of the importance of the availability of information technology capability. Furthermore, the Dutch respondents have a firm belief that the budget system should be compatible with the accounting system, which is used to carry out the budget, therefore, the basis on which the budget is prepared should be consistent with the basis of accounting utilized. And hence, budget reform demands accounting reform to support it. Consequently, it can be inferred that there is an interrelationship between the budget reform and the accounting reform in the public sector.

Furthermore, the Dutch respondents agreed that the implementation of accrual accounting in central government could not succeed without strong support from the politicians.

In fact, they perceived that political will and effective leadership are absolutely essential in carrying out any accounting changes. In addition, they realized that the consultation and co-ordination among and within the governmental entities that will apply the accrual accounting is of fundamental importance for obtaining comments and suggestions from the primary sources about the required improvements and to be well posted with their own internal problems and constraints that may preclude the successful implementation of accrual accounting. Consequently, based on the test results, the communication strategy, budgeting and accounting consistency, information technology capacity, political commitment and co-ordination and consultation are forming the elements of group 1, which we might call *profound supporting factors*.



Furthermore, the test results of tables 4.1 and 4.2 indicate that the willingness to change (WTC), legal provision (LEGPRO), management culture change (MCC), tackling of specific accounting issues (TSAI), bureaucracy support (BURSUP) and adopting and adaptation of private sector GAAP d(AAPSGAAP) do have a significant impact on facilitating the implementation process of accrual accounting in Dutch central government in comparison with the rest of supporting factors, as the observed differences are significant at .05 level.

Also the test results of tables 4.1 and 4.2 suggest that willingness to change, legal provision, management culture change, tackling of specific accounting issues, bureaucracy support and adopting and adaptation of private sector GAAP have more or less the same impact on the implementation of accrual accounting in the Dutch central government. As the comparison of these six factors did not produce statistical significant differences among each other. In terms of mean scores, these six factors have almost the same mean scores, consequently, it can be inferred that these factors can almost have an equivalent positive impact on the transition to accrual accounting to each other. Consequently, we might call these six factors: *very important supporting factors (group 2)*.

In addition, the test results of tables 4.1 and 4.2 reveal that budgeting of adoption costs (BAC) and professional and academic bodies support (PABS) have less impact than the aforementioned two groups and more significant impact in comparison with the form of government (FORMGOV) and international financial support (IFS). Apparently, the test results reveal that the budgeting of adoption costs and professional and academic bodies support can significantly facilitate the transition to accrual accounting in comparison with the form of government and international financial support (the observed differences are statistically significant at the 5% level). Similarly, the test results suggest that these two factors have an equivalent positive impact on the implementation process of accrual accounting in the Dutch central government, as the test results do not produce statistical significant difference between the budgeting of adoption costs and professional and academic bodies support. Consequently, these two factors form the third group, which we might call *important supporting factors*.

Finally, the test results of tables 4.1 and 4.2 indicate that there is a significant difference between the form of government and international financial support. This in turn means that the form of government does have a significant impact on the implementation process in comparison with the international financial support in the Netherlands. While the impact of the form of government is significantly different from the impact of the international financial support, based on the mean scores, the form of government is not considered as a real supporting factor. Accordingly, both of the form of the government and international financial support are forming the elements of group 4 which we might call *deletion factors group*.

#### **4.2.2 Egypt:**

Similar to the Netherlands case, this section analyses the significance and impact of the previously stated supporting factors on the implementation of accrual accounting in the Egyptian central government. Similarly, the table 4.3 presents the means of the supporting factors (row No.3), mean difference and p-value. In addition, in order to facilitate the grouping of the supporting factors, table 4.4 summarizes the significance of each supporting factor in comparison with the other supporting factors in Egypt as follows:

Table 4.3: The significance and impact of the supporting factors on the implementation of accrual accounting in the Egyptian central government in comparison with each other

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	LEGPRO	POLCOM	M C	BACON	CONSTRA	B A	COORD	W T	C P	A B	S A	I F	S BURS	T C	GAAP
	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD	MD
	PV	PV	PV	PV	PV	PV	PV	PV	PV	PV	PV	PV	PV	PV	PV
MEAN	4.4251	4.3923	4.2352	4.1978	4.1385	3.9531	3.9462	3.8846	3.8760	3.8805	3.6077	3.2828	3.2029	3.2020	2.6032
LEGPRO															
1															
2	.0328														
POLCOM	.675														
3	.1899	.1571													
M C	.011	.100													
BACON	.2273	.1945	.0374												
4	.000	.028	.580												
CONSTRA	.2867	.2538	.0967	.0593											
5	.000	.019	.239	.361											
B A	.4676	.4375	.2716	.2508	.1875										
6	.000	.001	.005	.008	.100										
COORD	.4790	.4462	.2891	.2517	.1923	.0152									
7	.000	.000	.003	.010	.056	.883									
W T	.5405	.5077	.3506	.3132	.2538	.0663	.0616								
8	.000	.000	.000	.000	.000	.486	.482								
PABS	.5491	.5163	.3592	.3218	.2624	.084	.0702	.0086							
9	.000	.000	.000	.000	.014	.474	.645	.937							
TS A	.8371	.8043	.6472	.6098	.5505	.3651	.3582	.2966	.288						
10	.000	.000	.000	.000	.000	.035	.064	.085	.674						
I F	.9174	.8846	.7275	.6901	.6308	.4531	.4385	.3769	.3683	.0803					
11	.000	.000	.000	.000	.000	.005	.009	.018	.019	.035					
BURS	.1142	.1109	.9524	.9150	.8556	.6880	.6633	.6081	.5932	.3052	.2248				
12	.000	.000	.000	.000	.000	.002	.001	.001	.006	.017	.323				
T C	.1222	.1189	.1032	.9949	.9356	.7502	.7433	.6917	.6731	.3551	.3048	.0799			
13	.000	.000	.000	.000	.000	.001	.002	.004	.003	.018	.324	.0765			
AUS	.1222	.1202	.1018	.9818	.9170	.7369	.7212	.472	.6588	.3880	.3218	.0898	.0009		
14	.000	.000	.000	.000	.000	.002	.001	.001	.006	.045	.240	.658	.885		
FORM	.8209	.7937	.6212	.5912	.5317	.3548	.3671	.2619	.2921	.9848	.8889	.6886	.5997	.5065	
15	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.001	.000	.023	

Based on the test results of table 4.3, table 4.4 summarizes the significance of each supporting factor in comparison with the other supporting factors in Egypt.

Egypt		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	LEGPRO															
2	POLCOM															
3	MCC	x														
4	BACON	x	x													
5	COMSTRA	x	x													
6	BAC	x	x	x	x											
7	COORDCON	x	x	x	x											
8	WTC	x	x	x	x	x										
9	PASS	x	x	x	x	x										
10	TSAC	x	x	x	x	x	x									
11	IFS	x	x	x	x	x	x	x	x	x	x					
12	BURSUP	x	x	x	x	x	x	x	x	x	x					
13	ITC	x	x	x	x	x	x	x	x	x	x					
14	AAPSGAAP	x	x	x	x	x	x	x	x	x	x					
15	FORMGOV	x	x	x	x	x	x	x	x	x	x	x	x	x	x	

Table 4.4: Significance of each supporting factor in comparison with the other supporting factors in Egypt.

X = Significance

Based on the test results of tables 4.3 and 4.4, the supporting factors in the Egyptian central government can be segregated into five groups as follows:

- |  |  |
|--|--|
| <p><b>Group 1- Profound supporting factors:</b></p> <ul style="list-style-type: none"> <li>- Legal provision; consistency; and</li> <li>- Political commitment; and</li> <li>- Management culture change.</li> </ul> <p><b>Group 3 - Important supporting factors:</b></p> <ul style="list-style-type: none"> <li>- Budgeting of adoption costs; support;</li> <li>- Co-ordination and consultation; capability;</li> <li>- Willingness to change;</li> <li>- Professional and academic bodies support.</li> </ul> | <p><b>Group 2 - Very important supporting factors:</b></p> <ul style="list-style-type: none"> <li>- Budgeting and accounting</li> <li>- Communication strategy.</li> </ul> <p><b>Group 4 - Moderately important supporting factors:</b></p> <ul style="list-style-type: none"> <li>- International financial.</li> <li>- Information technology.</li> <li>- Bureaucracy support; and</li> <li>- Adoption and adaptation private sector GAAP</li> </ul> |
|--|--|

**Tackling specific Accounting Issues.**

**Group 5 – Deletion factors:**

- Form of government

The test results of tables 4.3 and 4.4 suggest that legal provision, political commitment and management culture change have the most significant impact on creating a climate fit for the transition to accrual accounting system and to put it into practice in the central government of Egypt. The test results of the *two* tables indicate that there is a significant difference between these three factors and most of the other factors (the observed difference is significant at .05 level). With the exception of the significant difference between legal provision and management culture change, the results set forth that there is no statistically significant difference among each other. In fact, this implies that these three factors are substantially facilitating, from the Egyptian respondent's standpoint, the implementation of accrual accounting in the central government. Accordingly, these factors can have an equivalent impact on the transition to accrual accounting. In reality, inducing the practice with respect to the

experience of the earlier reformer countries, such as New Zealand, UK, Australia and Sweden, has proved that the legal provision, political commitment and management culture change were of fundamental importance behind the public sector reform in general and in particular, (he accounting and budgeting reform. This means that the Egyptian respondents are in concordance with the experience of the developed Countries. In this context, it can be concluded that both developed and developing countries agreed on the significance of these three factors. Thus, the test results show a high level of agreement between the Dutch and Egyptian groups that it is desirable to obtain the enactment of the laws for any substantial accounting reforms that have to be put into practice and there is a positive relationship between the implementation of accrual accounting and the leadership of the Minister of Finance and other key ministers involved in fiscal policy and public administration. In addition, both countries see that the more correspondent the public administrators culture is with the culture upon which the governmental accounting system is premised, the more easily change occurs. Based on the test results, the legal provision, political commitment and management culture change are forming the elements of group 1 which we might call *profound supporting factors*.

Furthermore, the test results of tables 4.3 and 4.4 set forth that budgeting and accounting consistency and communication strategy came in the second place in creating conditions appropriate for the implementation of accrual accounting in the Egyptian central government. The test results indicate that there is a statistical significant difference between these two factors and most of the rest of supporting factors (the observed difference is significant at .05 level). Thus, the results suggest that the more the budgeting and accounting system is integrated and a wide understanding about the objectives and requirements of change process exist, the more easily the accounting reforms can take place. In addition, the test results reveal that there is no a statistical significant difference between budgeting and accounting consistency and communication strategy. Consequently, the budgeting and accounting consistency and communication strategy can be categorized as group 2, which we might call *very important supporting factors*.

In addition to the aforementioned two groups, the test results show absolutely significant difference between the budgeting of adoption costs, co-ordination and consultation, willingness to change, professional and academic bodies support and tackling specific accounting issues and the following factors: international financial support, information technology support, bureaucracy support, adoption and adaptation of private sector

GAAP and form of government (the observed difference is significant at .05 level). In terms of mean difference, these five factors had scored very small mean differences among each other. Based on mean scores, it can be concluded that these five factors are not significantly different from each other and can play a similar role in facilitating the transition process to accrual accounting. Accordingly, we can come to the third group, which we might call *important supporting factors*

Furthermore, the test results of tables 4.3 and 4.4 reveal that there is a statistical significant difference between the international financial support, information technology capacity, bureaucracy support and adoption and adaptation of private sector GAAP and the following factor: form of government. The test results did not produce any statistical significant difference among these three factors. Similarly, it is assumed that the role of these three factors in facilitating the implementation process of accrual accounting in the Egyptian central government is amounted to each other. So these three factors can form the fourth group which we might call *moderately important supporting factors*.

Finally, the test results of the two tables reveal that there is a statistical significant difference between all the aforementioned 14 factors and the form of government. The results suggest that the form of government has no significant impact on facilitating the implementation of accrual accounting the central government of Egypt. Therefore, the form of government is a candidate for deletion (group5).

#### **4.2.3 Comparative analysis**

At the first glance, it can be seen that each community has given high ranking for the factors that are most consistent with its nature. For instance, the Dutch community, as a developed community, has given the major priority to the communication strategy which we might call persuasion factor. This in turn means that the nature of the democratic and developed community needs to be persuaded by the significance of new accounting changes and whether these changes can be justified or not. In contrast, the Egyptian community, as a developing community, has given the major priority to the legal provision and political commitment, which we might call imposing factors. Consequently, one can conclude that the more the community is developed, the more the *persuasion factor* is appropriate for introducing radical accounting changes. And the more the community is developing, the more the *imposing factor* is appropriate for introducing the radical accounting changes. Based on this conclusion, we can say that group 1 (profound supporting factors) is in concordance with the nature of the two communities. Especially, that this group in the Netherlands comprises more

persuasion factors than imposing factors such as: communication strategy, co-ordination and consultation, budgeting and accounting consistency. On the other hand, this group in Egypt encompasses only imposing factors such as: legal provision, political commitment and management culture change.

*The second observation* is that the persuasion factors came in second group (very important factor) in Egypt. This perhaps means that in the developing countries first impose and second persuade. In contrast, the second group in the Netherlands comprises more imposing factors. Which in turn means first persuade and second impose.

*The third observation* is that the technical and financial requirements for the adoption of accrual accounting (such as, Tackling specific accounting issues, the accounting standards, accounting personnel, budgeting of adoption costs, etc.) came in third place after the two stages of persuasion and imposing (or vice versa).

*Fourthly*, there is consensus between the developed and developing countries that the political commitment is fundamental, where group one in the two countries has comprised the political commitment as a profound supporting factor. In other words, the political commitment is the only factor that has been considered by the two countries (in group1) as a profound supporting factor.

*Finally*, while the form of government and the international financial support are considered as deletion factors in the Netherlands, the form of government is the only factor that has been considered as a candidate for deletion from the Egyptian respondent's point of view. This in turn means that the international financial support can play a considerable role in carrying out the accounting changes in the public sector of the developing countries in comparison with the developed countries.

## **5- Correlation among the supporting factors in both countries**

This section is devoted to analyze and interpret the correlation among the supporting factors. This is due to the fact that the supporting factors are likely not independent within the same country (group). Considering that the focus of this research project is on analyzing the situation in both of the developed and developing countries, it will be interesting to analyze the correlation between the supporting factors in the Netherlands and Egypt together in order to be able to give a comparable and full picture about the correlation among the supporting factors in the two countries. Based on the test results, the next table summarizes the correlation between each supporting factor and the other supporting factors in the Netherlands.

COR = Correlation



SIG. = Significant

Table 5.1: Correlation among the supporting factors and its significance in the Dutch central government

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	COMSTAR	BACON	ITC	POL.COM	COORD.COM	WTC	LEGPRO	MCC	BURSUP	TSAI	AAPGAA	BAC	PASS	FORMGO	F/S
1	COR														
2	COR	SIG. 143													
3	COR	SIG. 284	SIG. 134												
4	COR	SIG. 232	SIG. 312	SIG. 144											
5	COR	SIG. 218	SIG. 180	SIG. 238	SIG. 229										
6	COR	SIG. 114	SIG. 473	SIG. 878	SIG. 118	SIG. 118									
7	COR	SIG. 347	SIG. 264	SIG. 786	SIG. 216	SIG. 118	SIG. 118								
8	COR	SIG. 010	SIG. 062	SIG. 117	SIG. 048	SIG. 118	SIG. 118	SIG. 266							
9	COR	SIG. 430	SIG. 353	SIG. 117	SIG. 048	SIG. 118	SIG. 118	SIG. 266	SIG. 007						
10	COR	SIG. 002	SIG. 009	SIG. 066	SIG. 411	SIG. 297	SIG. 297	SIG. 266	SIG. 005	SIG. 276					
11	COR	SIG. 184	SIG. 206	SIG. 487	SIG. 040	SIG. 196	SIG. 266	SIG. 266	SIG. 005	SIG. 276	SIG. 015				
12	COR	SIG. 279	SIG. 133	SIG. 142	SIG. 244	SIG. 278	SIG. 276	SIG. 266	SIG. 005	SIG. 276	SIG. 015	SIG. 015			
13	COR	SIG. 041	SIG. 239	SIG. 200	SIG. 009	SIG. 111	SIG. 015	SIG. 015	SIG. 005	SIG. 276	SIG. 015	SIG. 015	SIG. 015		
14	COR	SIG. 049	SIG. 081	SIG. 901	SIG. 441	SIG. 098	SIG. 239	SIG. 014	SIG. 014	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	
15	COR	SIG. 098	SIG. 137	SIG. 884	SIG. 187	SIG. 197	SIG. 207	SIG. 081	SIG. 081	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
16	COR	SIG. 432	SIG. 001	SIG. 877	SIG. 246	SIG. 264	SIG. 112	SIG. 021	SIG. 021	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
17	COR	SIG. 052	SIG. 024	SIG. 828	SIG. 146	SIG. 088	SIG. 087	SIG. 021	SIG. 021	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
18	COR	SIG. 712	SIG. 808	SIG. 638	SIG. 284	SIG. 879	SIG. 438	SIG. 066	SIG. 066	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
19	COR	SIG. 118	SIG. 024	SIG. 346	SIG. 160	SIG. 022	SIG. 099	SIG. 184	SIG. 422	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
20	COR	SIG. 392	SIG. 807	SIG. 298	SIG. 281	SIG. 874	SIG. 476	SIG. 184	SIG. 001	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
21	COR	SIG. 181	SIG. 044	SIG. 848	SIG. 277	SIG. 191	SIG. 200	SIG. 096	SIG. 096	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
22	COR	SIG. 446	SIG. 784	SIG. 848	SIG. 008	SIG. 166	SIG. 028	SIG. 484	SIG. 492	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
23	COR	SIG. 180	SIG. 129	SIG. 888	SIG. 082	SIG. 181	SIG. 189	SIG. 100	SIG. 080	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
24	COR	SIG. 346	SIG. 816	SIG. 888	SIG. 646	SIG. 276	SIG. 434	SIG. 472	SIG. 287	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
25	COR	SIG. 148	SIG. 130	SIG. 516	SIG. 202	SIG. 281	SIG. 431	SIG. 181	SIG. 041	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015
26	SIG. 283	SIG. 428	SIG. 648	SIG. 816	SIG. 003	SIG. 824	SIG. 277	SIG. 840	SIG. 778	SIG. 276	SIG. 015	SIG. 015	SIG. 015	SIG. 015	SIG. 015

Table 5.2: Correlation among the supporting factors and its significance in the Egyptian central government

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		LEGPRO	POLCOM	MCC	BACON	COMSTRA	BAC	COORDCON	WTC	PABS	TSAI	IFS	BURSUP	TTC	AAPSGAAP	FORMGOV
1	LEGPRO	COR.														
		SIG.														
2	POLCOM	COR.	0.471													
		SIG.	0.000													
3	MCC	COR.	0.111	0.234												
		SIG.	0.377	0.060												
4	BACON	COR.	0.354	0.351	0.330											
		SIG.	0.004	0.004	0.007											
5	COMSTRA	COR.	0.182	0.010	0.070	0.380										
		SIG.	0.148	0.937	0.577	0.002										
6	BAC	COR.	0.063	0.124	0.300	0.340	-0.226									
		SIG.	0.621	0.327	0.016	0.006	0.841									
7	COORDCON	COR.	0.031	0.088	0.114	0.014	-0.018	0.254								
		SIG.	0.803	0.495	0.387	0.910	0.886	0.043								
8	WTC	COR.	0.108	-0.104	0.238	0.117	0.339	0.263	0.165							
		SIG.	0.401	0.410	0.058	0.353	0.006	0.036	0.188							
9	PABS	COR.	0.408	0.286	0.195	0.246	0.130	0.223	0.098	-0.015						
		SIG.	0.001	0.021	0.140	0.048	0.302	0.076	0.435	0.905						
10	TSAI	COR.	0.021	0.076	0.111	0.065	0.116	0.143	0.135	0.136	0.007					
		SIG.	0.942	0.872	0.669	0.760	0.425	0.456	0.412	0.780	0.920					
11	IFS	COR.	0.463	0.666	0.376	0.276	0.040	0.244	0.034	0.002	0.241	0.321				
		SIG.	0.000	0.000	0.002	0.026	0.754	0.052	0.787	0.989	0.053	0.087				
12	BURSUP	COR.	0.274	-0.040	0.005	-0.068	0.171	-0.139	-0.121	0.036	-0.168	0.096	0.008			
		SIG.	0.027	0.525	0.967	0.590	0.172	0.274	0.337	0.774	0.181	0.864	0.986			
13	TTC	COR.	0.033	0.056	0.004	0.065	0.154	0.115	0.423	0.067	0.151	0.098	0.008	0.041		
		SIG.	0.932	0.654	0.965	0.689	0.641	0.580	0.000	0.801	0.287	0.887	0.922	0.890		
14	AAPSGAAP	COR.	0.310	-0.378	-0.204	-0.225	0.117	-0.277	-0.038	-0.088	-0.285	0.008	-0.424	0.347	0.077	
		SIG.	0.013	0.002	0.109	0.076	0.360	0.029	0.766	0.482	0.018	0.899	0.001	0.006	0.888	
15	FORMGOV	COR.	0.032	-0.103	-0.092	0.078	0.197	-0.079	-0.467	0.024	0.090	0.142	-0.160	0.134	0.176	0.024
		SIG.	0.806	0.430	0.473	0.542	0.018	0.541	0.000	0.852	0.483	0.318	0.211	0.284	0.328	0.652

Based on the test results of table 5.1, the following table (table 5.3) summarizes the correlations between each supporting factors and the other supporting factors in the Netherlands.

The Netherlands	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 COMSTRA															
2 BACON															
3 ITC															
4 POLCOM															
5 COORDCON	x			x											
6 WTC	x	x													
7 LEGPRO						x									
8 MCC	x			x			x								
9 BURSUP				x		x									
10 TSAI								x							
11 AAPSGAAP															
12 BAC								x		x	x				
13 PABS				Y			x								
14 FORMGOV		x													
15 IFS				Y	Y										

**Table 5.3 Correlation between each supporting factor and the other supporting factors in the Netherlands**

X = positive correlation

Y = negative correlation

Similarly, based on the test results of table 5.2, table 5.4 summarizes the correlation between each supporting factor and the other supporting factors in Egypt.

Egypt		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	LEGPRO															
2	POLCOM	x														
3	MCC															
4	BACON	x	x	x												
5	COMSTRA				x											
6	BAC			x	x											
7	COORDCON						x									
8	WTC					x	x									
9	PABS	x	x		x											
10	TSAI															
11	IFS	x	x	x	x											
12	BURSUP	Y														
13	ITC							x								
14	AAPSGAAP	Y	Y				Y			Y		Y	x			
15	FORMGOV					x		Y								

Table 5.4 Correlation between each supporting factor and the other supporting factors in Egypt

X = positive correlation

Y = negative correlation

**In order to avoid the repetition problem, the interpretation of the correlation will focus only on:**

- The factors that demonstrate much correlation with the other factors; and
- The factors that demonstrate particular/ higher correlation.

**Studying the two tables, it appears that the following supporting factors have demonstrated much correlation with the other factors:**

**In the Netherlands:**

- Communication strategy;
- Political commitment;
- Management culture change;
- Willingness to change; and consistency;

**In Egypt:**

- Legal provision;
- Political commitment;
- Management culture change;
- Budgeting and accounting

Budgeting of adoption costs

- Budgeting of adoption costs;
- Adopting and adaptation of private sector GAAP; and

- International financial support.

**In addition to the aforementioned factors, the following factors have demonstrated a particular/higher correlation:**

**In the Netherlands:**

Table 5.1 did not show a particular/higher correlation.

**In Egypt:**

- Table 5.2 shows a particular/higher correlation: Political commitment and international financial support:  $r = .666$

Based on the previously stated factors, the correlation among the supporting factors, in addition to the potential reasons behind this correlation, will be discussed as follows:

### **5.1 Factors that demonstrate much correlation with the other factors - Communication strategy**

The test results of table 5.3 reveal that there is a significant positive correlation between the communication strategy and co-ordination and consultation in the Netherlands. The correlation results suggest that an increase of the co-ordination among and within the governmental entities and obtaining of comments and suggestions from these entities through consultation are associated with the adoption of an adequate communication strategy. In fact, the countries that were first to move to accrual accounting generally cite the need for more and better communications is an essential step. The role of the communication extends to all facets of the implementation cycle. Firstly, it is important to consult the governmental entities to obtain comments and suggestions for the required developments before establishing a new accounting system. Furthermore, knowing their view concerning the implementation impediments is essential. Accordingly, the communication efforts are required to obtain a practical view regarding the requirements and constraints from the governmental entities side. Secondly, the coordination among and within governmental entities that will implement the accrual basis is not an easy task. Furthermore, the production of a unified accounting system for these entities is another problem. Therefore, the communication strategy can facilitate the co-ordination process among and within the governmental entities through:

- a) Conveying a common understanding of the key principles of the accounting changes to the senior managers of these entities and all other members who will be responsible for carrying out the transition process;
- b) Disseminating the objectives and requirements of the accounting change process.

In addition, a continuing day-to-day working relationship with the governmental entity officials and staff is deemed indispensable to ensure adequate understanding of the new concepts. Consequently, the successful coordination and consultation among and within the governmental entities is fairly related to the adoption of an appropriate communication strategy. Whilst the co-ordination and consultation is correlated with the communication strategy in the Netherlands, table 5.4 indicates that they are not correlated in Egypt, which likely means that the developing countries

have not yet recognized the role of communication efforts in the co-ordination process among and within governmental entities.

Another interesting point is the positive correlation between the communication strategy and willingness to change in both the Netherlands (table 5.3) and Egypt (table 5.4). This result suggests that the higher the communication efforts, the higher will tend to be the staff motivations, will, training, qualification and conviction about the reform process. One of the objectives of the willingness to change is to overcome the resistance to change. Frankly speaking, the resistance to change exists in all organizations whether in the developed or developing countries. This resistance must be recognized and confronted if the changes need to be succeeded. This resistance often emerges as a result of misunderstanding of change purpose and the need and justification for change is not clearly communicated, and hence, leading to confusion and misconceptions.

Accordingly, in order to effectively manage and overcome the resistance to change, a sustained, systematic and supportive communication strategy should be the foundation for every major change initiative. In addition, increasing the staff motivation and conviction concerning the visibility and role of the new accounting system is another objective of the willingness to change. So in order to affect the staff motivation and conviction, “a big picture” (about the nature of the change process) should be conveyed early in the implementation. This includes the purpose of the financial reform process; how accrual accounting and budgeting fits into the reform process; and how the adoption of the accrual information will help managers in their day-to-day operations and decision-making. So conveying of this big picture will positively affect the staff motivation and conviction regarding the reform process. Consequently, underpinning the willingness to change is often related to very targeted communication efforts whether in the developed or developing countries.

Furthermore, the test results of table 5.3 show a significant positive correlation between the communication strategy and the management culture change in the Netherlands. The correlation results suggest that the more the communication efforts, the bigger the chance to increase the management culture change. The experience of the earlier reformer countries has proved that the implementation of accrual accounting needs to receive a high profile and the continued underpinning of senior manager. Furthermore, the change of accounting system not only involves implementing a new accounting system but also a significant culture change in the way managers understand and use financial information and how financial transactions are handled. Furthermore, managers will have to learn

ways to manage their budgets because they will have to deal with cash and non-cash items. Managers will need to understand how to read accrual-based financial statements and learn how to incorporate the improved financial information into decisions. Accordingly, the change of accounting system involves a culture change and requires the support and commitment of managers across the government. However, culture change in the public sector is usually considered as an intricate process. The role of communication efforts is of vital importance in assisting the people in changing their attitude and culture towards the reform process by demonstrating the benefits of the new system in comparison with the old one. In spite of the role that can be played by the communication strategy in changing the culture of the civil servants, table 5.4 did not reveal any significant correlation between the communication strategy and management culture change in Egypt. Once again, it generally seems that the role of communication efforts has not yet been recognized and appreciated enough in the developing countries.

- **Budgeting and accounting consistency**

The test results of table 5.3 show a significant positive correlation between the budgeting and accounting consistency and willingness to change in the Netherlands. In reality, it is often assumed that it is hard to persuade the governmental entities (e.g. agencies) that they can benefit from the use of cost data when they are not using costs to plan and manage their operations. Governmental entities that realize the value of the costs basis in budget execution also realize that such a tool is effective only when estimated costs can be measured periodically against the actual costs produced by accrual accounts. Thus, it is difficult to convince the governmental entities, which are using the expenditure-based budget, to use accrual accounting which produces the actual costs and expenses to be measured against the estimated expenditures. Simply, because the output of the two systems is different, hence, it cannot be measured against each other. Lüder and Jones (2003) argue that since the accounting is accrual-based and that accounting is compared with a budget at the year-end, then the budget must be accrual-based. The positive correlation here suggests that an increase of budgeting and accounting consistency may result in an increase of willingness to change. On the other hand, an increase in the willingness to change generally means that managers are willing to bear additional work and to spend more effort to prepare their budgets on an accrual basis and understand the relationship between the accrual budgeting information and accrual accounting information. Accordingly, so long as the budget basis is consistent with the basis of accounting, there is a greater chance of



increasing the willingness to change. And an increase in the willingness to change means increasing the desirability to conform the budget basis to the accounting basis.

Surprisingly, the correlation analysis also suggests that budgeting and accounting consistency is positively correlated with the form of government in the Netherlands. The Dutch interviewees have argued that, in the Netherlands, the coalition government is used to take into consideration the standpoint of coalition partners and to make consistency among their needs. Therefore, the consistency among the elements of change (such as budgeting and accounting systems) is likely more related to the nature of coalition government than single government. This is perhaps true, as the test results of table 5.4 did not show any correlation between the budgeting and accounting consistency and the form of the government in Egypt. Remember that the Egyptian government is a single government.

Whilst the budgeting and accounting consistency is positively correlated with only two factors in the Netherlands, the test results of table 5.4 show a significant positive correlation between the budgeting and accounting consistency and the following seven factors in Egypt: communication strategy, budgeting of adoption costs, professional and academic bodies support, international financial support, legal provision, political commitment and management culture change. The correlation results suggest that, unlike the developed countries, the budgeting and accounting consistency in the developing countries is associated with the support of several factors. Where it seems that the Egyptian respondents (unlike the Dutch respondents) see that the budgeting and accounting consistency is not an easy task, rather, it is an intricate process. The Egyptian respondents see that the budgeting and accounting consistency requires support of the academic and professional bodies. Since the adoption of accrual accounting will require the effort of these bodies to consider the implication for the budgets and appropriations systems, as it is desirable to budget and appropriate on the same basis. Furthermore, the respondents see that there should be enough financial means, whether from the international<sup>1</sup> community or from local resources, to manage the consistency process between the budgeting and accounting system. In addition, these resources should be budgeted for the whole change period in order to know the total resources required for achieving the consistency process. And there should be communication efforts to show the relation between the development of both accounting and budgeting systems, as they are complementing each other. This in addition to the political commitment and the enactment of the required laws and change of the management culture towards how the

managers can manage the new budget system and to deal with cash and non-cash items.

- **Political commitment**

It is interesting to note that the test results of table 5.3 show a significant positive correlation between the political commitment and management culture change in the Netherlands. The correlation results suggest that the higher the political commitment, the higher will tend to be the change of management culture towards the reform process. This result is in concordance with the experience of the earlier reformer countries. According to the New Zealand experience, the political commitment for the reforms created a climate in which chief executives saw little advantage in seeking to delay or impede the reforms, and instead worked towards their successful implementation (Ball, 2000). While table 5.3 has shown a significant positive correlation, table 5.4 did not show any correlation between political commitment and management culture change in Egypt. This is not consistent with the international experience since the political commitment in the developing countries is essential for carrying out any change. However, the Egyptian interviewees have explained this result as that the bureaucratic management is too close to the politicians in the developing countries to the point that one can not differentiate their commitment from each other. In other words, once the political commitment is provided, the bureaucratic commitment follows.

Another interesting point is the positive correlation between political commitment and co-ordination and consultation in the Netherlands. This result also suggests that the higher the political commitment, the higher will tend to be the co-ordination and consultation among and within the governmental entities. The Dutch interviewees argue that the political commitment can signal to managers of the governmental entities that the government is serious about the implementation of the accounting changes, which in turn can also result in very little resistance to change. And hence, to be serious about the co-ordination among and within these entities and to be ready for producing a unified accounting system. So if the political commitment is not established early in the process, the co-ordination and consultation will tend to be very low. This in turn may result in inability to overcome the emerging problems and scarce resources being wasted. Surprisingly, the test results of table 5.3 show a significant negative correlation between the political commitment and professional and academic bodies support. This result suggests that an increase of the political commitment is accompanied by a decrease in the professional and academic body's support. However, this result is not consistent with the experience of

the earlier reformer countries. As the political commitment, in the UK, New Zealand and Australia, was one of the main reasons behind the professional and academic bodies' support. In contrast, the test results in Egypt (table 5.4) show a significant positive correlation between the political commitment and professional and academic bodies' support, which is in concordance with the international experience. Frankly speaking, the professional and academic bodies are more enthusiastic for underpinning the accounting changes when they find that the politicians support these changes.

Surprisingly, the results from table 5.3 show a significant negative correlation between political commitment and the international financial support in the Netherlands. The correlation results suggest that an increase of the international financial support is accompanied by a decrease of the political commitment. In fact, the Dutch respondents see that the Netherlands is a rich country and the Dutch reforms are not relying on the financial support from the international community.

In contrast, the test results of table 5.4 reveal that there is a significant positive correlation between the political commitment and the international financial support in Egypt. The correlation results suggest that the more the international financial support the more will tend to be the political commitment in the developing countries. The Egyptian respondents have assured this positive correlation, as they argued that the international organizations, such as IMF and World Bank, have a more direct impact on the politicians in Egypt to carry out particular accounting changes as a corollary of funds being provided.

Finally, the test results of table 5.4 show a significant negative correlation between the political commitment and adoption and adaptation of private sector GAAP. This means that the politicians pay less attention to what kind of accounting standards that should be used in the governmental accounting system, whether they are private sector GAAP, IPSAS or ESA. Since the politicians are not interested in the technical reforms. As it is frequently difficult to bring non-specialists, such as politicians, to grasp the link between the innovation of government accounting and budgeting systems and technical requirements. The negative correlation between the political commitment and adoption and adaptation of private sector GAAP is due to the fact that accounting standards are highly technical and extremely complex filed.

## - **Legal provisions**

The test results of table 5.3 reveal that the legal provisions are positively correlated with the management culture change and willingness to change the Netherlands. The correlation results suggest that the shift from bureaucratic culture to new public management culture and increasing the staff motivations, will, qualifications and conviction about the benefits of the new system are associated with the legal provisions. The New Zealand experience has proved that the legal provisions demonstrate to the bureaucracy, chief executives and departments the strength of government's commitment to the implementation of accounting changes. This certainly increases the willingness of the bureaucracy and civil servants to seriously reflect their readiness to change their attitude and behavior into direction of the reform process in stead of oppose it (Ball, 2000). In addition, the legal provisions can increase the understanding and awareness of bureaucracy of the nature and characteristics of the accounting changes. As such, the legal provisions provide an opportunity to know the purpose and philosophy of accounting changes as well as the technicalities.

In addition, the test results of table 5.4 indicate that there is a significant positive correlation between the legal provisions and the professional and academic bodies support in Egypt. This means that the professional and academic bodies support in the developing countries is associated with the legal provisions. Where the legal provisions can make the professional and academic bodies in the developing countries to feel that the change process became serious, therefore, they should also be serious regarding the proposing of accounting standards and procedures; comment on the accounting standard proposals and supply recommendations; submittal of professional consultancy; and development and designing of an accounting system consistent with the public sector context.

Furthermore, the test results of table 5.4 indicate that there is a significant positive correlation between the legal provisions and the following factors: political commitment, budgeting and accounting consistency and international financial support in Egypt. In fact, the experience of the earlier reformed countries can support the positive correlation between the legal provisions and political commitment, as the enactment of the required laws can exert more pressure on the governing bodies to be committed with and to underpin the movement towards the implementation of the accounting changes. The same could happen for the senior and operational bodies to move into direction of the integration of budgeting and accounting system, which can justify the positive correlation between the legal provisions and the budgeting and accounting consistency.

In addition, the positive correlation between the legal provisions and international financial support can also be justified in the developing countries. As a result of funds being provided, the international organizations can exert pressure not only on the governing bodies but also on the legislative bodies in the developing countries to underpin the accounting changes by providing the required legal provisions.

Surprisingly, the test results of table 5.4 reveal that the legal provisions are negatively correlated with the bureaucracy support and adoption of private sector GAAP in Egypt.

This is an accidental correlation. It is inexplicable correlation. As this is not in concordance with the international experience, which has proved that legal provision can give signal to the bureaucracy that the government is serious regarding the reform process. As a corollary, the bureaucracy, who is accustomed to follow rules, will move into direction of underpinning the accounting changes.

#### - **Management culture change**

The most logical point is the positive correlation between the management culture change and bureaucratic support in the Netherlands. This suggests that an increase in the management culture change is accompanied by an increase in bureaucratic support for the adoption of accrual accounting in the central government. Of course, the change from the bureaucratic system (which is characterized by focusing on a compliance with written rules and regulations aimed at limiting discretion, it rewards compliance and creates incentives to avoid risk, having little freedom and less accountability, and it is a highly centralized management system) to a new public management system (which focuses on performance in terms of efficiency and effectiveness rather than compliance with rules and regulations, greater confidence in market mechanism, and linking resources with results) will require an informative accounting system. Consequently, the support of the bureaucracy is more associated with the change of the management culture.

In addition, the test results of both tables 5.3 and 5.4 revealed that there is a significant positive correlation between management culture change and budgeting of adoption costs. Budgeting of adoption costs is vital in determining the financial resources required for carrying out the accounting changes. In fact, a variety of skills are required to manage and maintain a change to accrual accounting. Identification of these types of skills required and planning to ensure the availability of those skills require a considerable amount of costs. Budgeting of the adoption costs will give a full picture on the total financial resources that are deemed to be necessary for securing the

availability of those skills. So the positive correlation here suggests that the more the management culture changed, the more attention paid, from civil servants part, to estimating the resources required and assisting in overcoming the future financial problems.

Another interesting point is the positive correlation between the management culture change and the international financial support in Egypt. The experience of some of the developing countries such Tanzania has revealed that the international organizations, through the resources being provided to the developing countries, can also exert pressure on the bureaucracy to move towards the reform process, by indirect way, through the governing and legislative bodies. In addition, the international financial support can provide the funds required for creating the right incentive system and overcoming the resistance to change.

## **5.2 factors that demonstrate particular/higher correlation**

- Political commitment and international financial support (in Egypt):  $r = .666$

The test results of table 5.4 reveal that the political commitment is positively correlated with international financial support in Egypt. The correlation results suggest that the higher the international financial support, the higher will tend to be the political commitment in the developing countries (Egypt) for performing the required accounting changes in the public sector. In reality, this result is in concordance with the experience of the developing countries that have carried out economic, accounting and budgeting reforms. Basically, most of these countries were not intended to make these changes from themselves, rather, the international organizations have required or imposed these changes as a condition for providing the financial support. On the other hand, the political commitment in the developing countries arises due to the fact that the international organizations follow-up the carrying out of these reforms through their delegation groups. The politicians in turn support these changes in order to prove for the international organizations that they like to be on the same line with the developed countries, furthermore, with the hope to get more financial support for future reforms. In other words, 67 % ( $r = .666$ ) of existence of the political commitment for performing public sector accounting changes in the developing countries (e.g. Egypt) is associated with the international financial support.

### 5.3 Comparative analysis

**The primary aim of this section is to find out to what extent the supporting factors are correlated within the Netherlands and within Egypt. In the course of this section the following results can be derived:**

- *Firstly*, the most positively correlated factors with each other and with the other factors in the Netherlands are the communication strategy, management culture change, budgeting of adoption costs, political commitment and willingness to change.
- *Secondly*, the most positively correlated factors in Egypt are legal provision, political commitment, management culture change, budgeting and accounting consistency, international financial support and budgeting of adoption cost.
- *Thirdly*, based on the above-mentioned two conclusions, the correlation results confirm the results obtained from the other statistical tests (paired t-test) presented in the previous two sections (4.2.1 and 4.2.2). For example, the most correlated supporting factors with each other and with the other factors in the Netherlands are similar to what earlier were called *persuasion factors*, communication strategy, willingness to change. Furthermore, the most correlated supporting factors with each other and with the other factors in Egypt is similar to what earlier were called *imposing factors*: legal provision and political commitment.
- *Fourthly*, the most negatively correlated factor in Egypt is the adoption and adaptation of private sector GAAP. Accordingly, the Egyptian respondents see that the adoption and adaptation of the private sector GAAP is a technical process and not so related with the other factors. Whereas, the most negatively correlated factor in the Netherlands is the international financial support. Similarly, the Dutch respondents see that the Netherlands is a rich country and the Dutch reforms are not relying on the financial support from the international community.
- *Fifthly*, the test results suggest that the role of the communication strategy in carrying out the accounting changes in the public sector of the developing countries has not been recognized yet. Whereas this role is well recognized in the developed countries, as the communication strategy is the most correlated factor with the other factors in the Netherlands. This supports the earlier conclusion reached in section 4.2.3 which stated that the more the community is developed, the more the *persuasion factors* are appropriate for introducing radical accounting changes.
- *Sixthly*, the role of the international organizations is well realized in the developing countries, where the international financial support is positively

correlated with legal provision, political commitment, management culture change and budgeting and accounting consistency in Egypt. This result suggests that as a corollary of funds being provided to the developing countries, the international organizations can exert vigorous pressure on governing and legislative bodies, in addition to bureaucracy, to carry out a particular accounting and budgeting change in the public sector.

## 6- Conclusion

The conclusions of the test results with respect to the significance of differences of the transition requirements *within* the developed and developing countries have indicated that the significance of the supporting factors and their influence on the transition process within each country apart can be categorized into the following groups:

<b>Categorization of factors</b>	<b>The Netherlands</b>	<b>Egypt</b>
<i>Group 1- Profound Supporting Factors:</i>	<ul style="list-style-type: none"> <li>- Communication strategy;</li> <li>- Budgeting and accounting consistency;</li> <li>- Information Technology Capability;</li> <li>- Political commitment; and</li> <li>- Co-ordination and consultation.</li> </ul>	<ul style="list-style-type: none"> <li>- Legal provision;</li> <li>- Political commitment; and</li> <li>- Management culture change.</li> </ul>
<i>Group 2- Very Important Supporting Factors:</i>	<ul style="list-style-type: none"> <li>- Willingness to change;</li> <li>- Legal provision;</li> <li>- Management culture change;</li> <li>- Tackling of specific accounting issues;</li> <li>- Bureaucracy support; and</li> <li>- Adoption and adaptation of private sector GAAP.</li> </ul>	<ul style="list-style-type: none"> <li>- Budgeting and accounting consistency; and</li> <li>- Communication strategy.</li> </ul>
<i>Group 3- Important Support Factors:</i>	<ul style="list-style-type: none"> <li>- Budgeting of adoption costs; and</li> <li>- Professional and academic bodies support</li> </ul>	<ul style="list-style-type: none"> <li>- Budgeting of adoption costs;</li> <li>- Coordination and consultation;</li> <li>- Willingness to change;</li> </ul>



Categorization of factors	The Netherlands	Egypt
		<ul style="list-style-type: none"> <li>- Professional and academic bodies support; and</li> <li>- Tackling specific accounting issues.</li> </ul>
<i>Group 4 - Moderately important supporting factors:</i>		<ul style="list-style-type: none"> <li>- International financial support;</li> <li>- Information Technology capability.</li> <li>- Bureaucracy support; and</li> <li>- Adoption and adaptation private sector GAAP.</li> </ul>
<i>Group 5- Deletion Factors:</i>	<ul style="list-style-type: none"> <li>- Form of government; and</li> <li>- International financial support</li> </ul>	Form of government

The most two important observations are that firstly, the nature of the democratic and developed community needs to be persuaded by the significance of new accounting changes and whether these changes can be justified or not. For instance, the Dutch community, as a developed community, has given the major priority to the communication strategy which we might call persuasion factor. In contrast, the Egyptian community, as a developing community, has given the major priority to the legal provision and political commitment, which we might call imposing factors. Consequently, one can conclude that the more the community is - developed, the more the *persuasion factor* is appropriate for introducing radical accounting changes. And the more the community is developing, the more the *imposing factor* is appropriate for introducing the radical accounting

changes. *The second observation* is that the persuasion factors came in second group (very important factor) in Egypt. This perhaps means that in the developing countries first impose and second persuade. In contrast, the second group in the Netherlands comprises more imposing factors. Which in turn means first persuade and second impose.

In addition the test results of the correlation have indicated that the supporting factors are differently correlated within both the developed and developing countries. However, the most important result is that the correlation results confirm the results obtained from the statistical tests (paired t-test) presented in sections 4.2.1 and 4.2.2. as the most correlated supporting factors with each other and with the other factors in the Netherlands are similar to what earlier were called *persuasion factors*: communication strategy, willingness to change. Furthermore, the most correlated supporting factors with each other and with the other factors in Egypt is similar to what earlier were called *imposing factors*: legal provision and political commitment.

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