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Administrative Transparency and its Relation to the Level of Support for the Scientific Productivity of Faculty at Universities

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Abstract:

The study investigates the degree to which the heads of academic departments of both state and private university colleges practice administrative transparency, in addition to its relevance to their level of supporting scientific productivity of faculty members.

The study community is composed of all faculty members of Jordanian state and private universities; sample includes (415) faculty members selected randomly from six universities in Jordan in the 2021/2022 first semester. The three regions of Jordan were represented: (Northern Province: Yarmouk University and Jerash University), (Central Province: AlBalqa Applied University and Al-Ahliyyah Amman University), and (Southern Region: Mutah University and University of Petra). Data is collected using two questionnaires after ensuring their authenticity and consistency: The first measures the degree of practicing administrative transparency while the second determines the level of scientific productivity. The study used the associated descriptive approach.

The study concluded that the degree to which administrative transparency is exercised by the heads of academic departments in the faculties of Jordanian state and private universities is significant. Nor are there statistically significant differences between the responses of the study sample members due to years of experience, and academic rank. The findings also indicate that the level of support for the scientific productivity of academic staff, in the departments of Jordanian state and private university colleges, is high. Similarly, there are no statistically significant differences in the level of support for the scientific productivity of teaching staff according to years of experience, but differences in academic rank are found in favor of associate professor rank.

Keywords: administrative transparency, scientific productivity, Jordanian universities, and faculty.

1. Introduction

Universities, as a whole, constitute a leading system in society and play an influential role in the intellectual, emotional, and cognitive development of the individual to be capable of dealing with life outcomes and developing them for the benefit of the individual, society, and humanity as a whole. Universities face many problems that have led to low-quality teaching and scientific research and reduced internal competence. Consequently, a crisis on the global level has occurred as a result of the weak capacity of universities worldwide and their weak ability to respond rapidly and successively to variables in different spheres of knowledge to provide the requirements of inclusive development (Harman, 2010). This is particularly true for Jordanian universities and requires the participation of the beneficiaries of their services to find appropriate solutions for the development of their administrative and academic programs and activities and to address any deficiencies in their performance which do not come without the accurate information that can contribute in removing any ambiguity that might expose the credibility of university systems to accountability (Chattanawy & Maiyaah, 2011).

University policies and rules of procedure must be designed to provide their personnel and service providers with ample information about their performance and practices besides the accuracy, criticality, and credibility of the information that reaches the beneficiaries. Valid and reliable information provided by universities on academic quality is an important option for securing the efficiency of the educational system, confirming transparency as a principle of the university's administrative and academic practices (Tarayrah & Adaylah, 2010). Transparency is the truthfulness of our lives, honesty is a value, not an emblem. It is a value that exists and must be enshrined in our lives at work, community, and home. It means clearness and integrity (saad,2018). Administrative transparency is a recent management theme that must be introduced by successful conscious departments, as its importance and contribution in enterprising development to achieve strong organizational machinery capable of meeting new challenges and surrounding changes (Ababna, 2012).

The concept of transparency refers to the clarity and lack of ambiguity in all areas of work between senior management and other levels of management So that the information is available to all according to their competence, thus, benefiting from the performance of the tasks assigned to the staff (Abdalhaleem & Ababnah, 2006). This concept reflects openness and adherence to requirements, work terms of reference, equal opportunities for everyone, ease of work, and reduction of corruption (Aladaylah.2000).

Badh (2012) defined administrative transparency as the full clarity of legislation, rules, and regulations, it is the clarity of performance and evaluation through the dissemination of information and data, accessibility to data, simplification, clarity in procedures, working mechanisms, and ease of communication. Administrative transparency is one of the modern and evolving management concepts that conscious departments must adopt because it is important in successful management development, as well as in contributing to the development of management regulations and to reaching a sound organizational structure capable of meeting new challenges and changes (Ghanem, 2017).

Transparency promotes participation in decision-making, allows citizens to be sensitized and informed of options, fair performance evaluation of workers, and access to the so-called open system, as well as

a mechanism for accountability (Al-subaiee, 2010). Transparency fights corruption in all its forms and manifestations, as transparency and non-interpretation of legislation help prevent delinquency and limit the possibility of diversion. Transparency of legislation also helps remove constraints and simplify procedures, enabling more efficient and effective performance (Kharabsha, 1997). Transparency also promises a safer life for workers through strict oversight by state bodies of all factors that cause any kind of risk and encourages better utilization of assets (Garsten & Montoya, 2008).

Administrative transparency, the policy of openness to employees, participation, and availability of information makes workers more convinced of their ability to influence business outcomes, and their attention shifts from a focus on achieving safety and self-esteem need to an interest in performance and production (Abubakr, 2001). Administrative transparency promotes self-control where individuals in administrative organizations applying the concept of administrative transparency are more independent while performing their job duties. Thus, everything is clear to employees and has sufficient powers to make decisions about the scope of their work within the rules and regulations of it, and this enhances self-control rather than administrative control (Garsten & Montoya, 2008).

Abdallah (2003) mentioned the requirements of administrative transparency in universities. The most important of which is the availability of democracy in society and clarity in regulations, laws, and procedures as well as declaring those regulations to citizens and employees and raising awareness among employees and citizens by informing them of their rights and duties (Aladaylah, 2000). Other requirements are the ongoing coordination among the organs concerned with manpower and administrative development, recruitment based on absolute efficiency, developing the information network between all services and institutions, facilitating the flow of information, and strengthening the role of financial and administrative oversight bodies (Olayyan and Jarrar, 1997).

In addition to the previous requirements, there are other requirements which are: Applying administrative engineering that means "restarting procedures, laws, regulations and working methods" (Allauzi, 2002), applying e-government, calling on civil society institutions to promote the anti-corruption slogan and to begin the reform. As well as streamlining working procedures, developing the capacity of government staff and freedom of the media and civil society organizations (Abukareem, 2009).

University faculty members are the cornerstone of educational science. Higher education institutions are keen to achieve a better level of quality in the worst areas of their work, their continued vitality depends on the extent to which they keep up with the new and appropriate educational and academic environment that rise with the knowledge development, scientific research, and academic supervision that are at the core of universities' life (2015).

Scientific productivity is one of the basic indicators associated with judging the competence and distinction of a member of the faculty, his or her academic reputation, and his or her contribution to the service of society, as well as with judging the excellence and competence of the university itself. On the one hand, it is linked to the career path, the promotion of science, and the job reputation of faculty members.

On the other hand, research published for faculty members, which is one of the most important components of scientific productivity, is an indicator of the classification of universities at the local

and international levels, where advanced universities compete in the field of scientific research as one of the three main functions of the university: education, scientific research and community service (Alaajz & Banat, 2003).

Rasmi (2004) has defined scientific productivity as the sum of research, articles, and books achieved by an individual within a specified time, that is, it represents both the evolutionary and innovative aspects of the individual researcher's contribution or participation in his or her field of scientific specialization. Participation in scientific courses, supervision of scientific activities, and university letters are considered to be a kind of unforeseen productivity. Hanna (2008) defined it as scholars' scientific publications that are included in the global total. Yusuf and Rahma (2008) defined scientific productivity as "the number of scientific research published on behalf of the faculty within a certain time/the number of faculty during the same period."

Indicators of scientific productivity are as follows: The number of scientific publications, research, studies, and the number of books written and translated. In addition to scientific recognition, attending scientific conferences, membership of professional associations, and patents (Abu Ashour, 2006). Scientific productivity is related to universities because higher education institutions are represented at universities and they are the most sensitive to the needs of development in all countries. Therefore, the university is a scientific institution that seeks to disseminate the science, knowledge, and intellectual and moral construction of nations (Mahjoub, 2003).

Abu Khatwa (2012) concluded that the university's main objectives are: Preparation of professional competencies, specialized leadership, and their mental abilities in all disciplines. In addition to the development of the integrated personality of the student in all its dimensions, upgrading of scientific research, writing various needed researches and preparation of study plans and curriculums needed by society.

Al-Kabissi and Al-Rawi (2010) have pointed out that scientific research is no longer well-being offered by a group of researchers far away from the concerns of society, it is the engine of the new world order. The world is now in the race for technologies to serve the comfort and well-being of society. Scientific research allows the past to be studied and to better understand the present and the future. Because civilized peoples have recognized the critical role of scientific research, their universities have been able to feature in scientific research through intellectuals and researchers.

According to Khadr (2011), developed countries have adopted scientific policies to stimulate scientific research therefore scientific research deanships and councils have been formed in universities. A suitable scientific climate must be provided because professors must increase their research productivity. Scientific research in the Arab world may be very important because it has to bridge the scientific and cultural gap between itself and the advanced world. This requires great knowledge in scientific research methods, choosing appropriate methodologies and ways of collecting information, and finally the best way to draw conclusions.

Many studies have been conducted on administrative transparency, Al-Otaibi's study (2008) also indicated a high degree of managerial accountability and efficiency in Saudi state universities. As Shamri (2009) showed in his study, the degree of administrative transparency in Saudi universities from the point of view of faculty members is average. There are statistically significant differences at

the indicative level between the arithmetic averages of the degree of administrative transparency in Saudi universities from the point of view of faculty members due to university and academic rank.

According to the main findings of Amayrah (2008), the level of administrative transparency among education managers from the point of view of the staff of the Departments of Education is average in all fields. A statistically significant correlation exists between the areas of administrative transparency, psychological pressure, and psychological security of employees while a negative correlation exists between the level of administrative transparency exercised by education administrators and the level of psychological stress experienced by employees in all areas. There is also a positive correlation between the level of administrative transparency exercised by education administrators and the level of psychological security felt by employees.

Altarawnah & Aladaylah (2010) found that individuals' perceptions of both the degree of practicing transparency and the level of managerial accountability are moderate. There is a statistically significant impact on the degree to which transparency in their different areas is applied in combination and individually to the level of administrative accountability. The study also indicated that transparency of decisions is the most influential area in the level of administrative accountability, while the transparency of legislation is the least influential one. In addition, there are statistically significant differences in the perceptions of sample members and the degree of transparency in the ministries examined due to gender, age, number of years of experience, scientific qualification, and managerial level.

The results of the shantawee and Maayaah (2011) are that the degree of transparency and accountability in Jordanian universities is high and that the most important subjects requiring transparency are: appointments of teaching staff, academic and administrative leaders, financial deficits, the effectiveness of scientific research, and the effectiveness of programs and appointments of personnel. Badah (2011) clarified that administrative transparency in private universities is largely applicable, and showed that there are no statistical differences in applying administrative transparency in the private Jordanian universities according to variants in academic grade, years of experience, and gender.

According to the results of the Ababnah (2012), the application of administrative transparency in Jordanian universities is intermediate in all its dimensions. Al-Harabi (2012) found that the degree of administrative transparency practiced in the academic departments of the Faculty of Education, King Saud University, is intermediate, with high requirements of administrative transparency. on one hand, differences in the aspects of the study are due to "the nature of the work" variable, on the other hand, there are no statistically significant differences in the aspects of the study due to the variable "scientific qualification".

Ghizan (2014) showed that academic leaders' degree of management transparency was average in all spheres. Tuwaijari's study (2015) concluded that academic administrators' awareness of education planning and level of administrative transparency among school administrators are moderate.

Aldhahri (2017) showed that the reality of applying administrative transparency in the general administration of education has a low degree, and the spheres of applying administrative transparency

were moderate to low arranged as followed: (Regulations and legislations, labor procedures, performance appraisal, equality, participating in decision-Making, administrative communication).

In his study, Alahmadi (2017) found that the degree of applying administrative transparency by female school leaders is moderate and that there is no statistical difference in the degree of applying administrative transparency by female leaders due to the variables number of years of experience. Abu Shaqra & et al. (2018) argued that the degree of administrative transparency practiced at Jordanian universities is moderate. There are differences in transparency and motivation due to the type of university, and a positive relationship is found between administrative transparency and motivation among faculty.

Several studies argued supporting scientific productivity, including Abu Ashour (2006) concluded that the level of scientific productivity in the field of scientific publishing is ranked first, the second is the scientific activity, and finally, the community service. It also concluded that the level of scientific productivity is low and that there is a positive correlation between all spheres of scientific productivity and regulatory climate, except workloads because the correlation with it is negative.

The results of Gingras et al. (2008) showed that there are two turning points in the research productivity of university researchers related to age. The results have also shown that the number of papers published by a university professor increases until retirement, indicating that scientific productivity does not decrease with age. Alamayra and Alsarabi (2008) revealed that faculty members have problems with their scientific research. Significant statistical differences are found in the degree of assessing the obstacles of scientific research by teaching staff at Isra University according to gender, and there were no differences according to years of experience.

Hals (2009) resulted in low expenditure on scientific research at Palestinian universities as well as the role of the government and private sector in financing scientific research at Palestinian universities. According to Alkabisi and Alrawi (2010), scientific production of human specialties is low, there are many obstacles in scientific research such as lack of financial support from universities, and that the scientific climate is not encouraging.

Radi (2010) indicated low scientific productivity of female faculty members, and statistically significant differences between female faculty members according to nationality for non-Saudi, specialization for practical sciences, and academic rank for professors. (Kelchtermans & Veugele,2011) revealed that the burden of teaching is not a barrier to research, but that in terms of increased bonuses and increased funding of research, they increase the productivity of researchers and reduce their inequality.

Altal (2011) found that the amount of scientific production as a whole is at an average level and the quantity of each indicator of scientific production is at a very low level, the study also showed significant differences between the average quantity of such productions in favor of associate professor rank and (over 10 years) experience years.

Larivier (2013) conducted a study revealing that federal government-funded doctoral students produce more research papers than other students and that there are statistically significant differences in scientific impact between federally funded and unfunded doctoral students in favor of federally funded

doctoral students. The study also indicated that peer participation has a greater impact than the provision of scholarships in research work.

Abu Snaineh (2015) found that the level of productivity and job satisfaction of faculty members at the educational science colleges of the University of Jordan and the University of the Middle East are low in the total degree. Additionally, differences in the level of scientific productivity of faculty are according to the University's variable. Alharthi (2015conducted a study about the reality of the academic freedom of female faculty members at Um Al-Qura University and its relationship to their scientific productivity resulting that academic freedom is linked to the level of scientific productivity in book-writing only.

Abdallah & Rabih (2017) found that some Sudanese universities had a low degree of scientific production indicators. Teaching staff indicated a low degree of adapting in socio-psychosocial climates, and no relationship is found between scientific production and psychosocial climates. Alhuwaiti (2017) resulted that the degree of scientific productivity difficulties for the faculty at Tabuk University is moderate while the constraints associated with the regulations, instructions, and climate were high. Also, there are no significant differences in the degree of scientific productivity handicaps according to gender, academic rank, and scientific specialization.

Alzaanoon and Tafis (2019) found that the scientific productivity of the faculty of the Schools of Commerce at the University of Gaza during the years 2014-2018 is moderate. The results show that scientific desire and energy are the most important drivers of scientific productivity. There are also many obstacles to scientific production at the universities in question, the most important of which is the high teaching and administrative burden. Rojas and Correa (2019) found that scientific productivity in basic science and engineering has a significant positive impact on the economic complexity of countries, however, this relationship remains stable for high-income countries, where university capacities interact between industry and government to stimulate and generate innovation and strategies for corporate economic growth.

2. Research problem

Universities play a key role in consolidating the principles of transparency and integrity, which are modern and evolving administrative concepts that all administrative institutions must adopt because of their importance in creating a successful administration attempting to solve many administrative problems, such as uncertainty in existing laws and regulations and finding ways to streamline procedures to combat administrative corruption.

This is reflected in universities motivating their faculty to work, and accordingly gaining their academic freedom. Scientific productivity is one of the basic indicators associated with judging the competence of the faculty member, his or her academic reputation, and contribution to community issues and judging the excellence and competence of the university itself. On the one hand, it is linked to the career path, the scientific promotion, and the reputation of teaching staff. On the other hand, research published by teaching staff, which is one of the most important components of scientific productivity, is one of the indicators of the classification of universities at the local and international levels where advanced universities compete in the field of scientific research as it is one of the three main functions of the university: education, scientific research and community service.

Therefore, the study attempts to highlight the degree to which the heads of academic departments of Jordanian universities apply administrative transparency and its relationship with the level of support for the scientific productivity of faculty.

3. Questions of the study

This study seeks to answer the following questions:

- Question 1: What is the degree of administrative transparency among heads of academic departments in Jordanian universities from the point of view of their teaching staff?
- Question 2: Are there statistically significant differences in the level of statistical significance (0.05 = α) between the responses of teaching staff about the degree of applying administrative transparency to Jordanian universities according to academic rank, and years of experience?
- Question 3: What is the level of support for teaching staff by heads of departments in Jordanian universities?
- Question 4: Are there statistically significant differences in the level of support by heads of departments in Jordanian universities for the scientific productivity of faculty, from the point of view of teaching staff, according to variables: university, years of experience, and academic grade?
- Question 5: Is there a relationship between the degree of administrative transparency exercised by heads of academic departments and the level of
- support for the scientific productivity of faculty members?
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4. Methodology

The researcher used the associated descriptive approach, which aims to describe the phenomenon, as it is, and then analyze, interpret and restrict the appropriate recommendations. Thus, it is the most appropriate method of study.

5. Study sample

The study sample consists of 415 faculty members selected randomly from six state and private universities representing the three regions of Jordan: (Northern Province: Yarmouk University and Jerash University), (Central Province: AlBalqa Applied University and Al-Ahliyyah Amman University), and (Southern Region: Mutah University and the University of Petra). Table 1 shows the distribution of sample participants:

Table 1 Distribution of study sample members according to variables

Variable	Type of university	Number	Percentage
University	State	280	67.4
	Private	135	32.6
Years of experience	Less than 5 years	165	39.8
	5-10 years	155	37.3
	More than 10	95	22.9
Academic rank	Professor	93	22.4

	Associate professor	**167**	**40.2**
	Assistant professor	**155**	**37.4**
Total		**415**	**100%**

Study instrument

To achieve the objective of the study, the researcher has developed a questionnaire to recognize the degree to which administrative transparency is exercised by the heads of academic departments in Jordanian state and private universities. The researcher also Referred to several previous studies and used them to develop the current questionnaire: Harb (2011), Alomari (2013), Althahri (2017), Alahmadi (2017), Saad (2018), and khadr & et al. (2018).

A questionnaire has been developed for the level of support for the scientific productivity of faculty members after referring to several previous studies, including Hals (2009), Alharthi (2015), Abu Sunaineh (2015), Alhuwaity (2017), and Alzaanoon & Tafesh (2019).

Reliability of the tool

The reliability of the content has been adopted to check the reliability. The questionnaire has been presented in its initial form to 15 university professors who are experts in the disciplines of educational administration and policy at Jordanian universities. They have been asked to read the items of the questionnaire paragraphs, delete, modify, add, reformulate and clarify some of the terms they believe to be inappropriate from their point of view. The experts had agreed on the validity of a large number of paragraphs and had proposed some modifications in the drafting of them which had already been modified.

Consistency of the tool

To ensure consistency, the Cronbach Alpha internal consistency has been used for questionnaire fields, depending on the degree of availability, and the degree of convenience. As table 2 shows.

Table 2: Internal consistency constant factor to determine the measurement of the degree of applying management transparency and the level of scientific productivity support (Cronbach Alpha).

Variable	**Constant factor (Cronbach Alpha)**
Degree of administrative transparency	**0.92**
level of scientific productivity support	**0.90**

6. Study procedures

To achieve the objectives of the study and reach the desired results, the following procedures have been followed:

- Obtaining a formal letter to facilitate the task of researchers in applying the study tool in the faculties of educational sciences in Jordanian universities to communicate with the faculty through email, especially since we are in the corona pandemic, thus it is difficult to communicate with the faculty because the teaching during the study was teleconference, through Teams.
- Preparing the study tool and verifying reliability and consistency.
- Identifying the study community members by referring to the official records of the Ministry of Higher Education and Scientific Research, obtaining the official numbers, and determining the number of the study sample, which consisted of (415) faculty members chosen randomly.
- The study tool was distributed to members of the sample for data collection purposes, and the response to the study tool was clarified. However, information about their responses would only be used for scientific research.
- Collecting the study tool and verifying their validity for statistical analysis, classifying them by study variables.
- Statistical data processing using SPSS, interpreting, discussing, and writing a recommendation.

7. Results of the study

First question: What is the degree to which administrative transparency is applied by the heads of departments in the faculties of Jordanian state and private universities from the point of view of their teaching staff?

To answer this question, averages and standard deviations of the degree of administrative transparency of the heads of departments of Jordanian universities have been calculated from the point of view of their teaching staff, as shown in table 3.

Table (3): averages and standard deviations of the degree of administrative transparency of department heads in Jordanian colleges from the point of view of faculty

Number of the field	The field	Average	Standard deviation	Field laying	Degree
1	Transparency in laws, regulations, and instructions	3.85	0.76	1	High
2	Transparency in management performance evaluation	3.83	0.80	2	High
3	Transparency in decision-making	3.61	0.60	3	Moderate

4	Transparency in administrative communication	3.56	0.59	4	Moderate
Total Degree of Administrative Transparency		3.70	0.60		High

Table 3 shows that the degree of administrative transparency of the heads of academic departments in Jordanian State and private university colleges is high, according to the responses of the teaching staff.

Question two: Are there statistically significant differences in the level of statistical significance ($0.05 \geq \alpha$) between the responses of faculty on the degree to which administrative transparency is applied for the heads of academic departments of Jordanian state and private universities due to academic grade and years of experience?

The averages and standard deviations of faculty responses on the degree of administrative transparency of heads of academic departments in Jordanian universities have been calculated according to the variable years of experience as in Table 4.

Table 4: Averages, standard deviations, and t-test results of the significance of differences between average responses of faculty on the degree to which administrative transparency is applied for department heads depending on the variable years of experience.

Total Degree of Administrative Transparency	**Levels of the variable**	**number**	**Average**	**Standard deviation**
	Less than 5 years	**165**	**3.80**	**0.56**
	5-10 years	**155**	**3.63**	**0.56**
	More than 10 years	**95**	**3.69**	**0.69**
	Total	**415**	**3.70**	**0.60**

Table 4 indicates significant differences between averages and standard deviations of faculty responses according to the variable years of experience. To verify the significance of the differences, the (One wey ANOVA) analysis is applied to their responses depending on the variable years of experience, as in table 5.

Table 5: Results of the analysis of One wey ANOVA, degree of administrative transparency of heads of academic departments in Jordanian state and private Universities, depending on the variable years of experience

Total Degree of Administrative Transparency	Contrast Source	Total Squares	Degrees of Freedom	Average squares	f-value	Level of significance

	Between groups	**0.987**	**2**	**0.493**	**1.383**	**0.253**
	In groups	**69.587**	**412**	**0.357**		
	Total	**70.574**	**414**			

Table 5 shows that there are no statistically significant differences in applying administrative transparency by the heads of academic departments depending on the variable years of experience.

Averages and standard deviations of faculty responses to the degree of administrative transparency of heads of academic departments have been calculated according to academic rank, as shown in table 6.

Table 6: Averages and Standard Deviations of Faculty Responses on the Degree of Administrative Transparency of Heads of Academic Departments Depending on Academic Grade Variable

Total Degree of Administrative Transparency	**Levels of variables**	**Number**	**Average**	**Standard deviation**
	Professor	93	3.59	0.60
	Associated professor	167	3.67	0.59
	Assistant professor	155	3.79	0.60
	Total	415	3.70	0.60

Table 6 indicates differences between averages and standard deviations of faculty responses on the degree of administrative transparency of heads according to academic rank. To verify the significance of the differences, (One wey ANOVA) analysis was performed. Table 7 shows this.

Table 7: Analysis of (One wey ANOVA) of faculty responses on the degree to which management transparency is exercised by heads of academic departments according to academic rank.

Total Degree of Administrative Transparency	**Contrast source**	**total Squares**	**Degrees of freedom**	**Average squares**	**F-value**	**Level of Significance**
	Between groups	1.212	2	0.606	1.704	0.185
	In groups	69.361	412	0.356		
	Total	70.574	414			

The results of table 7 indicate that there are no statistically significant differences in faculty responses to the degree of administrative transparency of department heads resulting from different levels of the academic rank based on the calculated F-value of 1.704 and a significant level of (0.185). There are also no statistically significant differences of faculty responses to all fields of administrative

transparency of the heads of academic departments, depending on academic rank in any area, since all values are not statistically relevant except for the area of transparency in decision-making. There are statistically significant differences in the area of transparency in decision-making.

To know in which of the three levels of academic grade are the differences, a test (Chevy) has been conducted, as shown in table 8.

Table 8: Chevy test results for differences in faculty responses on the scale of the degree to which the heads of academic departments practice administrative transparency in decision-making according to the academic rank

Academic rank		
Professor (3.42)	Associate professor (3.46)	Assistant professor (3.74)
*0.010 (0.282)	*0.015 (0.325)	

Table 8 notes that the difference is in favor of Assistant Professor when compared with the Professor and Associate Professor categories. It is in favor of the assistant professor in both cases.

Question three: What is the level of heads of departments' support for the scientific productivity of faculty?

To answer this question, averages and standard deviations of the level of support for the heads of academic departments in Jordanian universities for the scientific productivity of faculty members have been calculated as shown in table 9.

Table 9: Averages and standard deviations of the level of support of heads of academic departments in Jordanian universities for the scientific productivity of faculty

Variables	Average	Standard deviation	Level of support
Level of supporting scientific productivity	3.68	0.92	High

Table 9 shows that the level of support for the scientific productivity of faculty at Jordanian universities is high.

Question four: Are there statistically significant differences in the level of support by heads of academic departments in Jordanian universities for the scientific productivity of faculty, from the point of view of faculty members, according to years of experience and academic rank?

According to years of experience, averages and standard deviations of the level of support by heads of academic departments for the scientific productivity of teaching staff have been calculated as shown in table 101.

Table 10: Averages and standard deviations in the level of support by heads of departments for the scientific productivity of faculty according to years of experience

Variable	Levels of variable	Number	Average	Standard deviation
Years of experience	**Less than 5 years**	165	3.64	0.76
	5-10 years	155	3.75	0.74
	More than 10 years	95	3.67	0.62
	total	415	3.68	0.69

Table 10 indicates that there are apparent differences between averages of standard deviations to the responses of faculty members depending on the variable of years of experience. To ascertain the significance of the apparent differences, the One wey ANOVA analysis of their responses was done as in table 11.

Table 11: Results of the One wey ANOVA analysis of the level of support by heads of academic departments in Jordanian universities for the scientific productivity of faculty according to the variable years of experience.

Contrast source	Squares total	Freedom degrees	Squares average	F-value	Significance level
Between groups	0.677	2	0.339	0.697	0.499
Inside groups	178.369	412	0.489		
Total	179.046	414			

The results of table 11 indicate that there are no statistically significant differences in the responses of study members to the level of support by heads of academic departments in universities for the scientific productivity of teaching staff according to years of experience.

About academic rank, the averages and standard deviations of the level of support by heads of academic departments have been calculated as shown in table 12.

Table 12: Averages and standard deviations of the level of support of heads of departments for the scientific productivity of faculty depending on academic rank

	Levels of variables	**Number**	**Average**	**Standard deviation**
Academic rank	Professor	93	3.70	0.691
	Associated professor	167	3.92	0.433
	Assistant professor	155	3.29	0.843
	Total	415	3.68	0.697

Table 12 indicates apparent differences between averages and standard deviations of faculty responses to the level of support of heads of departments for the scientific productivity according to the variable academic grade. In order to ascertain the significance of apparent differences, a single variation analysis (One wey ANOVA) of their responses has been performed according to the academic variable, and table 13 shows that

Table 13: Results of the One wey ANOVA analysis of the level of support for the scientific productivity of faculty according to academic rank.

Contrast source	Squares total	Freedom degrees	Squares average	F-value	Significance level
Between groups	9.795	2	4.898	10.620	*0.000
Inside groups	169.251	412	0.461		
Total	179.046	414			

The results of table 13 indicated statistically significant differences in the responses of study members to the level of support of heads of departments in Jordanian universities for the scientific productivity according to the academic rank.

To know which of the three levels of academic rank are these differences, (Chevy) test has been conducted, as shown in table 14.

Table 14: Chevy test results for differences in the level of scientific productivity support for faculty at Jordanian universities according to the academic rank.

Contrast source	Levels of academic rank	Average	Professor	Associate professor	Assistant professor
Level of scientific productivity	Professor	3.70	--	*0.224 (0.00)	*0.405 (0.00)
	Associate professor	3.92	____	_____	*0.629 (0.00)
	Assistant professor	3.29		-------- .	

Table 14 notes that the differences are in favor of the associate professor when compared with the Professor and Assistant Professor levels.

Question 5: Is there a relationship between the degree of administrative transparency practiced by heads of academic departments and the level of support for the scientific productivity of faculty members?

To answer this question, Pearson's correlation factor has been calculated between the degree of administrative transparency applying and the level of support for the scientific productivity of faculty in the departments of state and private university colleges, as shown in table 15.

Table 15: Pearson Correlation Factor between Administrative Transparency and Level of Scientific Productivity Support for Faculty

	Level of productivity support	
Degree of administrative transparency practice	Person correlation factor	**0.63
	Significance level	0.00

Table (15) shows a strong and statistically significant positive relationship between the degree of administrative transparency practice and the level of supporting scientific productivity of faculty at Jordanian universities, where the correlation coefficient is (0.63) and statistical semantics is (0. 00).

8. Discussion

The results show that the degree to which administrative transparency is applied by the heads of academic departments in Jordanian state and private university colleges is high. This result can be

explained by the fact that teaching staff feels that the clarity of the laws, regulations, and instructions in all areas of work starts with senior management and other administrative levels.

There is also transparency in evaluating teaching staff as demonstrated by the equitable distribution of teaching materials in terms of burden, lecture times and days, as well as additional materials among all fellows, and treating all members of the body by the different departments of the university using the same standards.

This was confirmed by Badh (2012) through his definition of transparency as the full clarity of legislation, rules, and regulations and clarity of performance and evaluation through the dissemination of, and accessibility to, information and data, clarity in procedures, working mechanisms, and ease of communication. This has also been pointed out by Altarawneh and Aladaylah (2010) that administrative transparency is a principle of administrative clarity through administrative procedures and processes so that management activity is as clear as the sun by clarifying the reasons for administrative decisions. Alsubaiee (2010) also pointed out that transparency promotes participating in decision-making and fairness in assessing the performance of employees and reaching the so-called open system.

The outcome of this study is in line with Al-Otaibi (2008), Shatnawi & Maayaah (2011), and Badh study (2011) which noted that administrative transparency is high. The results differed from those of Amayrah (2008), Alshammari (2009), Altarawnah & Aladaylah (2010), Ababnah (2012), Alharbi (2012), Bani Melhem (2013), Alomari (2013), Altuwaijiri(2015), Althahri (2017), Alahmadi (2017), Abu Shagra & et al. (2018), and Transparency International (2018); their results are that the degree of administrative transparency is moderate.

The results also showed that there are no statistically significant differences in the degree to which the heads of academic departments at Jordanian universities applied administrative transparency from the point of view of the faculty according to years of experience and academic grade. This is based on the fact that the heads of academic departments apply transparency in terms of clarity in the laws, regulations, and instructions. Since clarity in administrative transparency is reflected in the satisfaction with which they are treated as a central focus of university work.

It is also reflected in the strengthening of the links between teaching staff especially since there is no competition in the work. Each teaching staff member has different functions and is fully aware of their duties, which are defined by teaching, scientific research, and community service. This study agreed with Badh (2011), Al-Harbi (2011), Bani Melhem (2013), and Alahmadi (2017) that there are no differences in the applying of administrative transparency according to the study variables.

The result of this study differed from that of Abu Kareem (2005), Altashah & Hawamdah (2007), Alshammari (2009), Altarawneh & aladaylah (2019), and Abu Shaqra & et al. (2018) whose studies indicated differences in the applying of administrative transparency according to the variables.

The results showed that the level of supporting the scientific productivity of faculty at Jordanian universities is high. This result can be explained by the fact that the heads of departments in Jordanian state and private university colleges are aware that they must support their colleagues in all matters related to work, particularly in the area of supporting scientific research that faculty members are working on to accomplish for promotion. The goal of universities is to encourage faculty members to

write and publish researches. Universities also offer rewards for publishing research which encourages faculty members to carry out researches.

Rasmi (2004) defined scientific productivity as the collection of research, articles, and books achieved by a member of the faculty within a specified period. Henna (2008) also emphasized that participation in scientific courses and supervision of scientific activities and university theses is a form of productivity. Abu Khatwa (2012) also added that one of the goals of the university is to develop professional competencies and specialized leadership staff and to refine their mental abilities in all disciplines.

The result of this study was in agreement with Mohammad (2003) and Abu Ashour (2006). The result of this study differed from that of Alsamawi (2004), Alfayyomi (2006), Alamayrah & Alsarabi (2008), Hals (2009), Alkabisy and Alrawi (2010), Rady (2010), Altal (2011), Abu Sunaina (2015), Abdullah & Rayeh (2017), and Alzaanoon & Tafis (2019), the result of which is that scientific productivity support is low.

The result of the study showed that there are no statistically significant differences in the level of supporting scientific productivity of faculty according to years of experience. This result can perhaps be explained by the convergence of the meanings and connotations of the administrative transparency applied in Jordanian universities which is reflected in the strengthening of the scientific productivity of teaching staff. The higher the degree of administrative transparency applied by department heads, the more this is reflected in supporting scientific productivity. This is an indication of the role of universities in facilitating and encouraging the tasks associated with scientific production, including support for universities and their classification in scientific production.

Therefore, the sample members respond that there are no differences between them due to years of experience, that is, there is no difference between their view of the level of support for the scientific productivity of faculty members due to years of experience. The result of this study differed from that of Mohammad (2003), Alfayyomi (2004), Altal (2011), and Abu Sunaina (2015); the result of which is that there are differences attributable to the variable, years of experience.

The study also showed statistically significant differences in the level of support to scientific productivity of teaching staff at different in favor of associate professor. The differences of faculties according to academic rank can be explained in their judgment on the level of support for their scientific productivity by the heads of academic departments, since teaching staff at the level of associate professor may have the ambition to promote to the higher level of professorship, and may face research conditions and difficulties, in particular, physical constraints, and difficulty in attending conferences and symposia, apart from the difficulty of finding sufficient time for scientific productivity under the great teaching burden. However, despite all the constraints, the door is open to exercising the scientific productivity of those who wish, when there are possibilities, the desire for research and knowledge is not restricted by academic rank.

This agreed with Mohammad Study (2003), Alsamawi (2004), Alshayee (2004), Radi (2010), and Altal (2011), the results of which indicated differences attributable to the academic rank variable. The result of this study differs from Alhuwaiti (2017), which indicated that there were no differences attributable to academic rank.

The results showed a strong statistically significant correlation between the degree of administrative transparency exercised by department heads and the level of support for the scientific productivity of faculty. This means that there are both administrative transparency and support for scientific productivity. This is predictable because the application of justice, integrity, clarity, flexibility, consistency of legislation, and the availability of information and data increase the level of support for scientific productivity, professional satisfaction, and the desire for achievement, growth, and progress. This is linked to the self-employment growth of faculty through research and dissemination, it interferes with and affects the scientific productivity of teaching staff and encourages them to achieve the greater objective of university institutions in scientific productivity. The outcome of this study is in line with Mohammad (2003), Alsamawi (2004), and Alharthi Study (2015) while it differed from that of Abdullah and Rabah (2017).

9. Recommendations

In the light of the results of the study, the study recommends the following:

- The need to strengthen the concept of administrative transparency in universities, as it plays a positive role in improving the level of scientific productivity of teaching staff and encouraging them to be creative, innovative, and distinguished.
- Dissemination, disclosure, and accessibility of information by all faculty through a special link of faculty members to adopt this information in their various studies and research.
- To continue to increase the support of teaching staff in the development of their annual rate of scientific production because of the importance of such productions in the development of university education.
- To nominate distinguished scientific research for publication in high-impact world journals at the university's expense and to contribute to the cost of participating in scientific, international, and regional conferences.
- Give more attention and encouragement to conducting researches according to the method of research groups.

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