إدارة الأداء الإلكتروني من وجهة نظر مديري مدارس التعليم العام في المملكة العربية السعودية

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ملخص الدراسة:

هدفت الدراسة إلى التعرف على إدارة الأداء الإلكتروني من وجهة نظر مديري مدارس التعليم العام في المملكة العربية السعودية، من خلال التعرف على مراحل وخطوات، وأبعاد وتحديات إدارة الأداء الإلكتروني. واستخدمت الدراسة المنهج المختلط، حيث تم جمع البيانات الكمية باستخدام الاستبانة على عينة بلغت ٤٦٨ فرداً، وجمعت البيانات الكيفية باستخدام مجموعات التركيز، وطبقت الدراسة في العام الدراسي ٢٠٢٢. وتوصلت الدراسة إلى ثلاث مراحل لإدارة الأداء الإلكتروني شملت: التهيئة والتخطيط، التنفيذ، التقويم، وجاءت بدرجة عالية. كما كشفت الدراسة عن ثمانية أبعاد لإدارة الأداء الإلكتروني، وجاءت بدرجة عالية. وأكدت نتائج الدراسة وجود فرق ذات دلالة إحصائية بين أفراد عينة الدراسة تعزى لمتغيرات النوع، والمؤهل، بينما لا توجد فروق فرق ذات دلالة إحصائية بين أفراد عينة الدراسة تعزى لمتغير سنوات الخبرة. وكشفت الدراسة عن بعض التحديات التي تواجه إدارة الأداء الإلكتروني ومنها: التحديات التقنية، والتحديات الإدارية والتنظيمية، والتحديات المرتبطة بعمليات إدارة الأداء الإلكتروني، والتحديات المرتبطة بالتطوير والتنمية المهني.

الكلمات المفتاحية: الأداء، وإدارة الأداء، والأداء الإلكتروني.

The Perceptions of Public School Leaders Regarding the Electronic Performance Management in Saudi Arabia.

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Abstract:

This study investigated the extent to which public school leaders perceive the electronic performance management in Saudi Arabia. To address this purpose, the study explored the perceptions of public-school leaders regarding phases, dimensions, and obstacles of electronic performance management. This study used a mixed methods research design. The quantitative data were collected from the participation of 468 participants, while the qualitative data were obtained from two focus groups of participants. The study was conducted in 2022, with the questionnaire and the focus group interviews as instruments of this study. The quantitative findings of this study found that the perception of school leaders regarding three phases of electronic performance management include a planning and preparation phase, implementing and monitoring phase, and evaluation and review phase were classified as "high." Additionally, the study identified eight dimensions for electronic performance management that were classified as "high." The study found statistically significant differences among group of participants based on gender and educational qualification. On contrast, the study found that the differences were not significant differences among groups with different years of experience. Lastly, the qualitative findings found various obstacles facing public school leaders to manage electronic performance such as technological obstacles, administrative and organizational obstacles, obstacles related to electronic performance processes, and obstacles related to the professional development.

key words: performance, performance management, and electronic performance.

Introduction:

Performance management is an important administrative function to ensure the effectiveness and productivity of schools. Performance management is one of the essential advances in the management field. It contains all the activities and processes that are carried out to ensure the efficiency and effectiveness of schools. Performance management is located within the managerial functions of management (Mather and Seifert, 2011).

Performance management is a continuous process to identify, plan, measure and develop the performance of the human resources by comparing the real performance and intended objectives, which improve the institutions and an individual's performance as well (Brown et al., 2019) .It aligns every individual's performance to school objectives and helps to ensure that all activities, procedures, and outputs are consistent with the objectives, mission, and vision of schools (Aguinis, 2013). Clearly, performance management as a systematic process enables schools to get better results from individuals and teams.

Performance management focuses on schools' objectives and individual's skills, competencies, knowledge, improvement, and results (Armstrong, 2006). Additionally in school setting, performance management is used to increase accountability and school staff outcomes to improve the services of school (Radin, 2011). Therefore, performance management is a process to ensure a school is operated effectively and sustains success. School leaders are required to conduct performance management professionally.

Electronic performance management is a critical issue for schools in this era. In fact, it aims to manage the electronic performance of all school faculty and staff. Bidaki (2004) stated that the electronic performance management as a system is used to manage the performance of virtual and distance work.

Implementing electronic performance management enables school leaders to provide accuracy feedback and support for teacher and staff. This aims to improve all school members' performance that will increase the outcomes and results of the performance (Ullah

et al., 2021). Indeed, electronic performance allows school leaders to manage school members' performance with the overall objectives of the school.

The shift in school systems worldwide reinforces the development of accurate performance management methods. Studies found that school leadership has an important role to manage performance in schools, so that the school leaders must have accurate abilities, competencies, and technology to manage performance (Tonich, 2021; Kopisk & Marques, 2020). Other studies indicated that good leadership produces good performance in school because school performance management and school improvement has been affected by school leaders' practices and their abilities to establish an accurate performance system (Grant, 2015; Sitthisomjin et al., 2020; Hidayat & Wulandari, 2020; Gultom et al., 2021).

Recently, there is a massive use of a new digital platform in schools around the world for many different educational purposes. Several studies found that the educational platforms have been used by all school members comprised of students, teachers, staff, and leaders (Petrison & Petrison, 2021; Hartong, 2021). These digital platforms include data, tools and access that affect education worldwide (Al-Anṣari, 2021; Williamson, 2017; Landri, 2018; Romito et al., 2019). In Saudi Arabia, the Saudi 2030 Vision enhances using technology in all sectors, including education (Saudi Vision 2030, 2016) Clearly, educational platforms are an important part of education, which facilitate learning and teaching processes as well as all educational services in schools.

Teachers must use different digital platforms to implement their duties and responsibilities, so electronic performance management has been an important task for school leaders. It enables school leaders to plan, implement, review, and evaluate electronic performance of school staff and faculty. Anderson & Wulfeck (2014) concluded that when the parts of job are performed using technology and software, an appropriate performance system must be designed. Moreland (2009) revealed that performance management provided a further sustenance when the schools were in

challenging circumstances. In addition, such this electronic performance, and electronic efforts must be considered in this digital era because the school staff and faculty functions and duties have been changed by using technology. Therefore, the purpose of this study was to investigate the extent to which public school leaders perceive the electronic performance management in Saudi Arabia. To address the study purpose, the questions below will be answered:

- To what extent do public school leaders perceive the phases of electronic performance management in Saudi Arabia?
- To what extent do public school leaders perceive the dimensions of electronic performance management in Saudi Arabia?
- Do public school leaders with different gender, educational qualifications, and experience differ in their perceptions regarding the phases and dimensions of electronic performance management in Saudi Arabia?
- What are the obstacles of managing the electronic performance as perceived by public school leaders in Saudi Arabia?

Literature Review:

This section presents related literature that focuses on performance management and electronic performance management in schools. The related literature includes several themes which are reviewed in the following paragraphs.

Performance management has received significant attention in academic literature and empirical studies. It has been an important tool for school leaders to improve and develop school performance. Performance management is defined as "a systematic process for improving organizational performance by developing the performance of individuals and teams" (Armstrong, 2006, p. 1). Aguinis (2013) stated that performance management is defined as the "continuous process of identifying, measuring and developing the performance of individuals and teams and aligning performance with the strategic goals of the organization" (p. 2). Clearly, performance management includes a measure of behaviors and final results or outcomes, and refers to attitudes, abilities, and skills that exist to perform the job. For the purpose of this study, performance management can be defined as the continuing process of planning,

measuring, mentoring, and reviewing the performance of teachers and staff in schools.

Scholars initiated theories that include perceptions and insights about performance management. The following theories underpinning performance management, which include goal-setting theory, expectancy theory, control theory, and social cognitive theory. The following overview provides background for each theory.

The goal-setting theory was developed by the work of Edwin Locke and Gary Latham as an effective way to ensure and improve performance (Locke, 1968; Locke & Lathmn, 1984, Locke & Lathmn, 2005; Lathmn, 2000). This theory highlights the following: 1) difficult goals lead higher performance, 2) specific goals lead to higher performance, 3) these goals affect performance by mechanisms of directing, attention, action, mobilizing, persistence, and motivation, 4) task feedback motivates individuals toward higher performance, 5) goals lead to higher performance, when individuals are capable and have abilities to achieve the goals, and 6) goals lead to higher performance, when individuals are dedicated to the goals (Locke & Lathmn, 1995). In fact, the goal-setting theory is the process of developing specific goals and providing accurate performance feedback. These specific goals are linked to task performance.

Second, the expectancy theory developed by Vroom (1964) during the 1960s as the first complete version related to an organizational setting. This theory aimed to explain or predict the task-related effort expended by individuals who contribute to the performance of individual and team. This theory is based on four assumptions. First, employees have expectations about their motivations, needs, and past experiences. Second, the individual's behavior is a result of conscious choice. Third, employees need different things from their organization. Fourth, employees can choose among alternatives. According to these assumptions Vroom stated three key elements in the theory as follows: 1) expectancy that refers to the level of performance related to individual assigned to the work effect, 2) instrumentality, which means the level of

performance leading to work outcomes that are rewarded, 3) valence that is the perceived value or reward that is the strength of individual performance and the desire for a particular work outcome or reward.

The third theory is the control theory that was developed by Carver and Scheier as a model of feedback or cybernetics (Carver & Scheier, 1981; Carver & Scheier, 1988). The theory describes the process to reduce the discrepancy between what individuals are doing and what individuals are expected to do, then takes immediate action to overcome the discrepancy. The theory focuses on continuous action to compare actual performance with intended performance in order to provide accurate feedback. Therefore, the control theory considers feedback as an essential part of the effective performance management process.

Finally, Bandura (1986) drew the social cognitive theory from his earlier work on the social learning theory. Self-efficacy is the central concept of this theory. It describes what individuals think about their capabilities and skills that helps explain how what individuals believe they can or cannot do impacts on their performance (Bandura, 1994). The theory suggests to developing a positive self-belief in individuals as an important performance management objective. The self-efficacy can be improved through four points including experiences, perceptions, verbal persuasion, and interpretation of reaction to stressful conditions (Bandura, 1986; Bandura, 1994; Bandura, 1997).

These theories explained above provide insight and an overview of how the performance management process works. The goal-setting theory emphasizes the standards and criteria that are required for performance. Similarly, the expectancy theory focuses on tasks and efforts that impact the individual's performance, while the control theory indicates that the feedback is an essential part of performance management. More specifically, the social cognitive theory provides a clear explanation to support performance management by describing the interaction between what individuals are thinking and doing and the workplace itself.

According to Aguinis (2013), the performance management system has several important contributions, including motivation,

are increased, self-esteem is increased, work task and criteria are clarified, professional development is enhanced, fair and justice are ensured, organizational objectives are clarified, good and poor performance are differentiated, and individual engagement is enhanced. In addition, Armstrong (2006) stated that the performance management concerns outputs, outcomes process and inputs, planning to achieve the objectives, measurement and review progress, continuous improvement and development, communication, satisfying the needs and demands of stakeholders, and ethical principles. In fact, performance management is a continuous, comprehensive and management process. It clarifies the mutual expectations and needs of the personnel and the school as an organization. Finally, performance management emphasizes the role of school leaders as coaches and mentors and focuses on the future.

Pulakos (2009) identified two main objectives for performance management as "a basis for decision making, and to guide employee development" (p. 20). While Armstrong (2006) emphasized that the overall objective for performance management "is to focus people on doing the right things by achieving goal clarity" (p. 2). Smither & London (2009) stated that performance management is implemented to serve six purposes: 1) strategic purpose by aligning individual goals with organization goals, 2) administrative purpose to make accurate decisions related to personnel, 3) communication purpose to inform personnel about their working and to receive information, 4) developmental purpose by providing feedback and coaching for employees on a daily basis, 5) organizational maintenance purpose by offering useful data about skills, abilities, training needs, and promotional potential that are used in planning process, 6) documentation purpose by collecting data and information that are useful for performance management. Consequently, performance management emphasizes the importance of balance between what is delivered and how it is delivered.

Performance management must be operated ethical by considering many ethical principles. Winstanley & Stuart-Smith (1996) proposed four ethical principles for performance management including respect for personnel, mutual respect for all

who are involved in performance management, ensuring procedural fairness, and showing transparency. Roberts (2014) reviewed several empirical studies related to performance management and provided various ethical principles such as control values, accountability, honest feedback, trust, lack of bias, integrity, empowerment, forgiveness, encouragement, inspiration, participation, confidence, and engagement. Clearly, the ethical principles of performance management consider the factors and causes that affect the personnel and school leaders.

A body of related literature highlighted the performance management as a process that includes several consistent phases and activities. Deming (2000) stated that the performance management consists of four phases plan, act, monitor, and review. Additionally, Carroll & Dewar (2002) divided the performance management into four phases: "1) deciding what is the desired level of performance; 2) measuring performance; 3) reporting or communicating performance information; and 4) using performance information to compare actual performance to the agreed performance level" (p 413). More details are provided by Pulakos (2009), who determined eight steps for performance management, which include "establishing goals, determining results and expected behaviors, providing ongoing discussion and feedback, collecting inputs of employee effectiveness, obtaining information and data for performance, identifying performance standards to guide rating, conducting a performance review and feedback session, and finally likening performance results to outcomes and rewards.

Though, after reviewing empirical studies, scholars Chubb et al. (2011) found that performance management can be divided into three phases, including "design, the execution, manager's role" (p.8). Aguinis (2013) proposed that performance management includes seven phases "prerequisites, performance planning, performance execution, performance assessment, performance review, and performance renewal and recontracting" (p. 37). It is significant to say that performance management can be operated by following various phases. Therefore, for a school setting, the three performance management process phases are used in this study. They contain planning and preparation, implementing and monitoring, and

evaluation and review. These three phases include the first phase in order to establish the electronic performance management by providing all things needed. The second phase starts the electronic performance management process. Finally, the last phase focuses on the important part, which is evaluation, and provides the review for the whole performance management process.

Performance management includes many dimensions that are related to behaviors and work outcomes of school members and the school. Danielson & McGeral (2000) discussed “planning and preparation, classroom environment, instruction, and professional responsibilities" (p. 23). Also, Darling-Hammond (2013) stated that performance management is grounded in three dimensions "evaluations of practices, teachers’ contributions to students learning, and teachers' contributions to the work of their colleagues and the school as a whole" (p. 50-51). Page (2016) determined four comprehensive dimensions that underpin performance management in schools consisting of carrying out responsibility to teachers, staff and students, providing accountability and professional autonomy, managing teachers, and developing practices.

Some scholars further analyzed performance management in school to identify distinguishing dimensions. For example, Jonyo & Jonyo (2017) suggested a variety of dimensions including professional development, responsibilities, teaching and learning, environment learning, managing students, supervision, curricular activities, utilizing technology, and collaborative culture. Recently, Hidayat & Wulandori (2020) reported that the leadership of school practices manages performance in different dimensions such as tasks and responsibilities, administrative staff leadership, teachers' collaboration, learning quality, and teacher performance. That distinguished and difference in performance management dimensions seems to have an impact on school leaders' practices to manage performance. These dimensions must cover all aspects and individuals' performance to achieve the intended goals.

The electronic platforms and technology have been used by schools' leaders and all members to perform their work and tasks (Williamson, 2015; Landri, 2018; Romito et al., 2019; Petrison &

Petrison, 2021; Hartong, 2021). This emphasizes that electronic performance management must be implemented in schools in order to ensure best practices of performance management process (Watkins & Leigh, 2010). Thus, electronic performance management can be defined as a process to manage performance of school members who perform their tasks and duties by using technology.

Electronic performance management is aimed to cover all aspects and dimensions of school members performance. Paul et al. (2020) discussed the electronic performance management aspects and stated that "it deals with what people do (their work), how they do it (their behavior), and what they do it (their result)"(p. 3). Payne et al. (2018) proposed these points related to electronic performance including "outcomes, documents, and integrates structures" (p. 190). In this study, the electronic performance management has been divided into six dimensions, including skills and competencies in utilizing technology, e-learning and instructions, conducting online exams and assessments, showing professional responsibilities in schoolwork, participating in schools' online activities and events, and attending professional and developmental programs. Therefore, these dimensions relate to all tasks and aspects of electronic performance in schools that includes personal skills, teaching and learning process, evaluation and assessment process, and development process.

To implement electronic performance management successfully, Paul et al. (2020) presented some factors that are: ensuring staff satisfaction, enhancing transparency, using technology confidently, ensuring justice for all, offering adequate development programs, and providing role definition and skills criteria. Additionally, some scholars reported some factors related to electronic performance such as job attitude, staff commitment, perception about job autonomy, and privacy rights (Jeske & Santuzzi, 2019; Ravid et al., 2020).

Applying electronic performance management in school has several benefits for the staff and the school a whole. Smither & London (2009) stated that using electronic performance

management provides support for the organization to carry out these purposes and goals. Watkins & Leigh (2010) emphasized the benefits for implementing the electronic performance management that "increased the performance, improved user attitudes, reduction, in monetary costs, provide[d] performers with memory support particularly for infrequent tasks, and rapidly provide[d] a broad group of performers with the updated information" (p. 333). Furthermore, Radhika et al (2020) reported that the electronic performance management lead the organization to productivity, ensure positive workplace environment, offer sizable data, and indicate a good insight for individual's performance.

In summary, performance management has been seen as an essential function for school leaders to ensure the identified objective will be achieved. Performance management is a continuous process, which relates to behaviors, actions, and outcomes of school members. The current role of school leaders is to manage all kind of performance in schools containing normal performance and electronic performance.

Methodology:

1- Research Design. This study is a mixed methods research design. Mixed methods design "combines quantitative and qualitative research methods in different ways, with each approach adding something to the understanding of the phenomenon." (Ary et al., 2010, p. 559). This mixed methods study is embedded design in which "the two datasets are analyzed separately, and they address different research questions" (Creswell, 2012, p. 545). Additionally, "the rationale for an embedded design is that a single data set is not sufficient to answer different questions, and each type of question requires different types of data" (Ary et al., 2010, p. 564). The mixed methods design was used to provide a depth understanding by investigating different inquiry elements (Creswell, 2012; Ary et al., 2010; Johnson & Christensen, 2008). In this study, the mixed methods design enables researcher to collect both quantitative and qualitative data, analyze, and interpret them to achieve the study purpose.

2- Study Participants. The investigator conducted this study in Saudi Arabia School Districts. There are 44 school districts. The first

stage was to select the sample for quantitative data. Ten school districts were selected purposefully: Riyadh School District, Makkah School District, Jeddah School District, Asir School District, Mohayil School District, Rejal Alma School District, Saba School District, Jazan School District, Tabouk School District, and Algnftha School District. Thus, the sample was selected from these school districts by using a random sampling technique. All school leaders had an equal probability to participate by ensuring that the instrument was sent to all school leaders. Lastly, the quantitative data were obtained from the participates as shown in table (1).

Table (1) Participants in the Quantitative stage (*n* =468)

Variable	Types	N	%
Gender	Males	195	41.7
	Females	273	58.3
Educational Qualification	Bachelor degree	399	85.3
	Graduate degree	69	14.7
Years of experience	Less than 5 years	129	27.6
	5- less that10 years	129	27.6
	More than 10 years	210	44.9
Total of Participants		468	

In the qualitative stage, the sample included some school leaders by using nonrandom purposeful sampling technique. This help to collect appropriate data. Thus, (10) school leaders were selected who have a good educational background and experience, and they were divided into two groups. Each group involved five participants.

3- Study Instrumentation. To collect the data, two instruments were used. First, the quantitative data collected by using questionnaire. The researcher reviewed related literature and previous research. The questionnaire was developed to investigate the extent to which public school leaders perceive the the phases and dimensions of electronic performance management. The questionnaire contained three sections. Section one described sample. Second two contained 23 items relate to phases of electronic performance management. Section three contained 10 items focused on the dimensions of electronic performance management. After that, to ensure the content validity, the first draft of the questionnaire

was reviewed by professors in educational leadership and educational studies. According to comments and suggestions of these reviewers, modifications and corrections were made, and the questionnaire was revised. Then the final draft of the questionnaire was developed.

The final draft of the questionnaire included three sections as follows. Section one described sample including gender (male-female), educational qualification (bachelor-graduate), and years of experience (> 5 years, 5-10 years, and <10 years). Section two contained 20 items relate to phases of electronic performance management that divided into three subsections (planning and preparation contained 8 items), (implementing and monitoring contained 6 items), and (evaluation and review contained 6 items). Section three contained 6 items that focused on the dimensions of electronic performance management. The Likert-type scale was used that included a 3-point. Each item was rated by selecting one of these points: (1) low, (2) moderate, or (3) high. Furthermore, to calculate the internal validity the Pearson Correlation Coefficient was employed. The scores of correlation coefficient of all items and dimensions were significant at the (0.01) level as displayed in tables (2) and (3). Finally, the Cronbach's Alpha was used to calculate reliability of the questionnaire. The Cronbach's Alpha scores were high as presented in table (4).

Table (2): Pearson Correlation Coefficient of the Questionnaire Sections (*n* =468).

Sections		**items**	**The Correlation Coefficient**
Phases of electronic performance management.	Planning and preparation	8	**0.91
	Implementing and monitoring	6	**0.93
	Evaluation and review	6	**0.92
Dimensions of electronic performance management.		6	**0.84

** Correlation is significant at the 0.01 level.

Table (3): Pearson Correlation of the Questionnaire Items (*n* =468).

Phases of electronic performance management						Dimensions of electronic performance management	
Planning and preparation		Planning and preparation		Planning and preparation			
Items	Pearson Correlation	Items.	Pearson Correlation t	Items.	Pearson Correlation	Items	Pearson Correlation
1	**0.76	9	**0.83	15	**0.78	21	**0.79
2	**0.83	10	**0.84	16	**0.84	22	**0.81
3	**0.83	11	**0.85	17	**0.87	23	**0.87
4	**0.82	12	**0.86	18	**0.87	24	**0.86
5	**0.86	13	**0.86	19	**0.90	25	**0.89
6	**0.87	14	**0.86	20	**0.86	26	**0.82
7	**0.82						
8	**0.83						

** Correlation is significant at the 0.01 level.

Table (4): Cronbach's Alpha Scores of the Questionnaire (*n* =468)

Sections		items	Cronbach's Alpha
Phases of electronic performance management.	Planning and preparation	8	0.93
	Implementing and monitoring	6	0.93
	Evaluation and review	6	0.93
Dimensions of electronic performance management.		6	0.92
All Items.		26	0.97

In the second stage, the focus group interview technique was used as a second instrument to collect the qualitative data. To provide a depth understanding and to answer this question, the focus group interviews was used as a type of interview. The focus group defined as "the process of collecting data through interviews with a group of people, typically four to six" (Creswell, 2012, p. 218). It is "an interview on a topic with a group of people who have knowledge of the topic" (Merriam & Tisdell, 2016, p. 114). The focus group interviews allowed the researcher to interact with participants to gain different perspectives and the best data (Creswell, 2012; Merriam &

Tisdell, 2016). This qualitative data obtained from the focus group interviews used to answer the fourth question: What are the obstacles of managing electronic performance as perceived by public school leaders? More specifically, the interview consisted of one mean question that related to the obstacles of managing electronic performance as perceived by public school leaders.

To ensure the content validity of the focus group interviews, the interview questions directly related to fourth question of the study. The interview questions were developed according to literature review and related studies. The following steps were followed to increase the content validity: (1) creating trust and rapport with the interviewees, (2) inspiring the interviewees to clarify and explain their answers and statements, and (3) providing an appropriate time for each interviewee to present their opinions and ideas.

The external validity of the focus group interviews is another type of validity to be examined. To ensure the external validity, the maximum variation strategy was employed in this study. The participants were selected non-randomly for interviews. Ten school leaders were selected purposefully. These interviewees had different experience and educational backgrounds to obtain in-depth data about their and perspectives and thoughts related to the topic of the study. Also, the findings were reviewed with participants in the study to ensure that the findings are accurate.

Last, to ensure consistency and accuracy, the focus group interviews reliability was checked. The audit trail strategy was used by following these steps: (1) the researcher wrote draft of interview questions in English, (2) the draft was translated into Arabic for better understanding, (3) the same interview protocol was used with each group, and (3) the data of this interviews were recorded and transcribed.

4- Data Collection Procedures. Data were collected during the year of 2022. There were two stages to collect data. First stage, the quantitative data were collected by following several steps. Researcher requested official permission from School Districts to deliver the questionnaires to participants. Then an online

questionnaire technique was conducted by sending the link to participants. The participants began answer the questionnaire. The questionnaire was available for 40 days. In first 25 days, 356 participants answered the questionnaire. 15 days later, 112 participants answered the questionnaire. Finally, the link to the questionnaire was closed after 40 days.

Second stage, the qualitative data were collected by following these steps. The interview participants were selected. Consent forms were received from participants. The researcher used Arabic Language, because it was the native language of group participants. The interview goals were clarified. To assure the confidentiality, researcher notified that the data used for the scientific and academic purposes. After that, online link was provided for each group to conduct the interviews. Then, participants were notified that the interviews would be recorded and documented. Every interview was finished within an average time of 35 minutes. At the end of every interview, researcher thanked and appreciated participants and provided final chance for more comments. The qualitative data were collected using interviews over two days.

5- Data Analysis. Data analysis process contained two stages. First, the quantitative data have been analyzed by employed descriptive and inferential statistics. In this study, the Version 23 of (SPSS) was used. The statistics used in this study included the Pearson Correlation to calculate the internal validity of the questionnaire. To measure the reliability of the questionnaire, Cronbach' Alpha was used. Frequency and percentage were utilized to describe the participants in quantitative stage.

Additionally, to answer question one and two, descriptive statistics measures were utilized including means and standard deviations. To answer these questions, a rating scale was created by following this formula: (3-1)/3+1. A largest score was 3, and a lowest score was 1. The result of that was divided by the scale 3 categories, then added 1 as shown in table (5).

Table (5): Rating Scale

Range of Score	Classifications
1.0 -1.66	Low
1.67- 2.33	Moderate
2.34- 3.0	High

To answer question three, inferential statistics were employed. To investigate the differences between two groups based on gender (male-female), and two groups based on educational qualification (bachelor-graduate), the *t*-test two-independent samples was computed. Furthermore, the (ANOVA) one-way analysis of variance was computed, to examine the differences among groups with different experience (> 5 years, 5-10 years, and <10 years).

In the second stage, the qualitative data have been analyzed through these steps: 1) transcript materials were organized and categorized, 2) transcripts were read several times and notes were written, 3) the data were divided into text segments, 4) the data were coded by numbers and developed a list for all codes, 5) these codes were organized into groups, 6) similar codes were combined to develop and establish main themes, 7) these main themes were organized into several major themes that consisted subthemes, 8) the themes were interrelated and connected.

Findings:

The findings of the study were presented in this section. The data were analyzed and reported to answer the study questions. This section included two stages as follow.

First, quantitative findings were revealed to answer the three questions respectively. Question one: To what extent do public school leaders perceive the phases of electronic performance management in Saudi Arabia? The findings included mean, and standard deviation for items and overall mean of phases as presented in tables 6-9.

Table (6): The mean, standard deviation, classification, and rank for the extent to which public school leaders perceive the phases of electronic performance management (*n* =468).

N	Phases of electronic performance management	Mean	Standard deviation	Classification	Rank
1	Planning and preparation phase.	2.40	0.63	High	2
2	Implementing and monitoring phase.	2.37	0.69	High	3
3	Evaluation and review phase.	2.43	0.67	High	1
Overall Mean		2.40	0.66	High	

Table (6) reported means, standard deviations, rank, and classification for the extent to which public school leaders perceive the phases of electronic performance management, as well as the overall mean score. All phases classified as "high". These phases were scored and arranged from highest to lowest sequentially as followed: evaluation and review phase classified first with mean of M = 2.43, planning and preparation phase classified second with mean of M = 2.40, and implementing and monitoring phase classified third with mean score of M = 2.37. Last, the findings showed that the overall mean for phases of electronic performance management classified as "high" with mean score of M = 2.40.

Table (7): The mean, standard deviation, classification, and rank for the extent to which public school leaders perceive the planning and preparation phase of electronic performance management (*n* =468).

N	Items	Mean	Standard deviation	Classification	Rank
1	Determining the performance objectives clearly.	2.41	0.62	High	5
2	Explaining the performance objectives.	2.37	0.60	High	7
3	Classifying the performance objectives.	2.28	0.63	Moderate	8

4	Aligning the performance objectives with school mission.	2.45	0.65	High	2
5	Aligning individuals and school performance objectives.	2.46	0.62	High	1
6	Identifying the development objectives of improving performance.	2.43	0.62	High	3
7	Making agreement about the performance objectives	2.40	0.65	High	6
8	Committing to set off the performance objectives.	2.42	0.64	High	4
Overall Mean		2.40	0.63	High	

Table (7) displayed means, standard deviations, rank, and classification for the extent to which public school leaders perceive the planning and preparation phase of electronic performance management, and the overall mean score. Seven items were “high” classified, while one item was "moderate" classified. The participants of the study scored item 5 the highest with mean of M = 2.46, while scored item 3 the lowest with mean of M = 2.28. Last, the findings presented that the overall mean of planning and preparation phase was “high" classified with mean of M = 2.40.

Table (8): The mean, standard deviation, classification, and rank for the extent to which public school leaders perceive the implementing and monitoring phase of electronic performance management (n =468).

N	Items	Mean	Standard deviation	Classification	Rank
9	Identifying the needs to achieve the performance objectives.	2.44	0.62	High	1
10	Follow up the processes to achieve the performance objectives.	2.30	0.67	Moderate	5
11	Determining the obstacles that may face achieving the performance objectives.	2.42	0.64	High	2

12	Identifying the changes that are required to achieve the performance objectives.	2.30	0.65	Moderate	4
13	Providing the required support to achieve the performance objectives.	2.35	0.61	High	3
14	Determining the implementing processes to carry out performance management.	2.35	0.64	High	3
Overall Mean		2.37	0.69	High	

Table (8) revealed means, standard deviations, rank, and classification for the extent to which public school leaders perceive the implementing and monitoring phase of electronic performance management, as well as the overall mean score. The table shows that four items were classified as “high”, while two items were classified as "moderate". The participants of the study scored item 9 the highest with mean of M = 2.44, while scored item 10 the lowest with mean of M = 2.30. Lastly, the findings showed that the overall mean of implementing and monitoring phase classified as “high" with mean of M = 2.37.

Table (9): The mean, standard deviation, classification, and rank for the extent to which public school leaders perceive the evaluation and review phase of electronic performance management (n =468).

N	Items	Mean	Standard deviation	Classification	Rank
15	Defining the key results of performance objective.	2.42	0.66	High	4
16	Evaluating the individuals' performances.	2.48	0.66	High	2
17	Collecting the data and evidence about performance.	2.49	0.63	High	1
18	Evaluating the inter school performance.	2.47	0.67	High	3
19	Providing the feedback for individuals performance.	2.35	0.69	High	5
20	Sharing the overall performance of school.	2.34	0.71	High	6
Overall Mean		2.43	0.67	High	

Table (9) showed means, standard deviations, rank, and classification for the extent to which public school leaders perceive the evaluation and review phase of electronic performance management, and the overall mean score. The table displays that all items were “high” classified. The respondents scored item 17 the highest with mean of M = 2.49. Lastly, the findings displayed that the overall mean of evaluation and review phase was “high" classified with mean of M = 2.43.

Question two: To what extent do public school leaders perceive the dimensions of electronic performance management in Saudi Arabia? The findings contained mean, and standard deviation for items, and overall mean as illustrated in table 10**.**

Table (10): The mean, standard deviation, classification, and rank for the extent to which public school leaders perceive the dimensions of electronic performance management (*n* =468).

N	Dimensions of electronic performance management	Mean	Standard deviation	Classification	Rank
21	Skills and competencies in utilizing technology.	2.44	0.63	High	5
22	E- learning and instructions.	2.56	0.61	High	1
23	Conducting online exams and assessments.	2.52	0.63	High	2
24	Showing professional responsibilities in schoolwork.	2.46	0.64	High	4
25	Participating in schools' online activities and events.	2.42	0.66	High	6
26	Attending professional and development programs.	2.51	0.65	High	3
Overall Mean		2.49	0.64	High	

Table (10) showed means, standard deviations, rank, and classification for the extent to which public school leaders perceive the dimensions of electronic performance management, and the overall mean score. All dimensions were “high” classified. The participants of the study scored the item 22 the highest with mean of M = 2.56, while scored item 25 the lowest with mean of M = 2.42. Lastly, the overall mean finding for dimensions of electronic

performance management was classified as “high" with a mean score of M = 2.49.

Question three: Do public school leaders with different gender, educational qualifications, and experience differ in their perceptions regarding the phases and dimensions of electronic performance management in Saudi Arabia? The t-test, for two-independent samples, and (ANOVA) one-way analysis of variance were computed and illustrated in tables 11- 13.

Table (11): T-test of two-independent samples of male and female regarding the phases and dimensions of electronic performance management (n =468).

The phases and dimensions of electronic performance management	gender	n	mean	std. deviation	*t*-value	df	sig.(2-tailed)
Planning and preparation phase.	Male	195	17.85	4.30	6.23	466	.00٠*
	Female	273	20.19	3.78			
Implementing and monitoring phase.	Male	195	15.60	3.99	4.79	466	.00٠*
	Female	273	17.26	3.48			
Evaluating and review phase.	Male	195	15.97	3.92	4.98	466	.000*
	Female	273	17.75	3.74			
The overall of phases.	Male	195	63.42	13.53	5.99	466	.0٠0*
	Female	273	70.76	12.74			
Dimensions of electronic performance management.	Male	195	14.00	3.38	5.34	466	.00٠*
	Female	273	15.56	2.91			

* Difference is significant at the 0.05 level.

Table (11) presented the *t*-test of two-independent samples findings which explore the difference among male and female participants regarding the phases and dimensions of electronic performance management in public schools. The table showed the difference of the overall phases of electronic performance management in public schools between male (N= 195, M= 63.42, SD= 13.53) and female (N= 273, M= 70.76, SD= 12.74) participants was statistically significant, t (466) = 5.99, p= .000. Also, the *t*-test of two-independent samples findings showed a statistically

significant difference among groups of male and female on all phases of electronic performance management in public schools, including the planning and preparation phase, male (N= 195, M= 17.85, SD = 4.30) and female (N= 273, M= 20.19, SD= 3.78), *t* (466)= 6.23, *p*= .000, the implementing and monitoring phase, male (N= 195, M= 15.60, SD= 3.99) and female (N= 273, M= 17.26, SD= 3.48), *t* (466)= 4.79, *p*= .000, and the evaluation and review phase, male (N= 195, M= 15.79, SD= 3.92) and female (N= 273, M= 17.75, SD= 3.74), *t* (466)= 4.98, *p*= .000. Lastly, the findings found difference regarding the dimensions of electronic performance management in public schools between male (N= 195, M= 14.00, SD= 3.38) and female (N= 273, M= 15.56, SD= 2.91) was statistically significant, *t* (466) = 5.34, *p*= .000. The findings indicated that the groups of males and females had different insights and perceptions about the phases and dimensions of electronic performance management in public schools, because the mean score of females was higher than the mean score of males.

Table (12): T-test of two-independent samples based on educational qualification regarding the phases and dimensions of electronic performance management (*n* =468).

The phases and dimensions of electronic performance management	educational qualification	n	mean	std. deviation	*t*-value	df	sig.(2-tailed)
Planning and preparation phase.	Bachelor	399	19.44	4.13	2.83	466	.005*
	Graduate	69	17.91	4.17			
Implementing and monitoring phase.	Bachelor	399	16.65	3.78	1.15	466	.251
	Graduate	69	16.09	3.85			
Evaluating and review phase.	Bachelor	399	17.17	3.90	2.23	466	.026*
	Graduate	69	16.04	3.84			
The overall of phases.	Bachelor	399	68.30	13.50	2.32	466	.021*
	Graduate	69	64.22	13.42			
	Bachelor	399	15.04	3.23	2.07	466	.039*

Dimensions of electronic performance management	Graduate	69	14.17	2.98			

* Difference is significant at the 0.05 level.

Table (12) displayed the *t*-test of two-independent samples findings which examine the difference among participants with different educational qualification (bachelor and graduate) about the phases and dimensions of electronic performance management in public schools. The table illustrated the difference of the overall of phases of electronic performance management in public schools between bachelor participants (N = 399, M = 68.30, SD = 13.50) and graduate participants (N = 69, M = 64.22, SD = 13.42) was statistically significant, t (466) = 2.32, p = .021. In addition, the *t*-test of two-independent samples findings found a statistically significant difference among participants with different educational qualifications on two phases of electronic performance management in public schools, including the planning and preparation phase bachelor participants (N = 399, M = 19.44, SD = 4.13) and the graduate participants (N = 69, M = 17.91, SD = 4.17), t (466) = 2.83, p= .005 and the evaluation and review phase bachelor participants (N = 399, M = 17.17, SD = 3.90) and graduate participants (N = 69, M = 16.04, SD = 3.84), t (466) = 2.23, p= .026. These findings indicated that the bachelor and graduate respondents had different insights and perceptions about the phases of electronic performance management in public schools because the mean score of bachelor participants scored significantly higher than graduate participants. In contrast, the *t*-test of two-independent samples findings found no statistically significant difference on the implementing and monitoring phase between bachelor participants (N = 399, M = 16.65, SD = 3.78) and graduate participants (N = 69, M = 16.09, SD = 3.85), t (466) = 1.15, p= .251. The findings indicated that the bachelor and graduate participants had similar insights and perceptions about the implementing and monitoring phase.

Last, the findings discovered difference regarding the dimensions of electronic performance management in public schools between bachelor participants (N = 399, M = 15.04, SD = 3.23) and graduate participants (N = 69, M = 14.17, SD = 2.98) was

statistically significant [t (466) = 2.07, p = .039]. The findings indicated that the bachelor and graduate respondents had different insights and perceptions about the dimensions of electronic performance management in public schools because the mean score of bachelor participants was statistically higher than graduate respondents.

Table (13): (ANOVA) One way analysis of variance based on experience regarding the phases and dimensions of electronic performance management (n =468).

The phases and dimensions of electronic performance management	source of variance	sum of squares	df	mean square	*f*	sig.(2-tailed)
Planning and preparation phase.	Between Groups.	27.9	2	13.9	.802	.449
	Within Groups.	8072.2	465	17.4		
Implementing and monitoring phase.	Between Groups.	46.3	2	23.1	1.617	.200
	Within Groups.	6656.4	465	14.3		
Evaluation and review phase.	Between Groups.	87.7	2	43.9	2.896	.056
	Within Groups.	7043.3	465	15.1		
The overall of phases.	Between Groups.	433.1	2	216.6	1.180	.308
	Within Groups.	85351.4	465	183.6		
Dimensions of electronic performance management.	Between Groups.	٩,٨	2	4.9	.476	.621
	Within Groups.	٤٧٨٦,٤	465	10.3		

Table (13) presented the One-way analysis of variance findings that explore the differences among participants with different years of experience (> 5 years, 5-10 years, and < 10 years) about phases and dimensions of electronic performance management in public schools. The table showed that the differences were not statistically significant among participants on the overall of phases of electronic

performance management in public schools F (2, 465) = 1.180, p= .308. Furthermore, these findings found the differences were not statistically significant among participants on all phases of electronic performance management in public schools including planning and preparation phase F (2, 465) = 0.802, p= .449, implementing and monitoring phase F (2, 465) = 1.617, p= .200; and evaluation and review phase F (2, 465) = 2.896, p= .056. Lastly, the findings showed that the differences were not statistically significant among groups of participants with different years of experience about the dimensions of electronic performance management in public schools F (2, 465) = 0.476, p= .621. These findings implied that the participants in this study with different experience had similar insights and perceptions regarding the phases and dimensions of electronic performance management in public schools.

In this stage, qualitative findings were displayed to answer question four in the study: what are the obstacles to managing electronic performance as perceived by public school leaders in Saudi Arabia? to provide answer for this question, the interviewees' answers were analyzed. Then coding matrices was developed. At the end, the qualitative findings were organized and reported as followed.

First, the technological obstacles. Many respondents provided some technological issues facing school leaders through managing electronic performance, including the weakness of technological skills of teachers, leaders, and all school members. Some school digital platforms have technological problems, database management issues, network services issues, and maintenance and technological support difficulties. Clearly, the respondents underscored that leaders of public schools need to be able to deal with these technological obstacles.

Second, the administrative and organizational obstacles. Most responses stated these obstacles: school leaders still focus on normal performance rather than electronic performance. Controlling and following up for electronic performance are difficult, guidelines and details of electronic performance are not clear, plans for managing electronic performance have not existed, inaccurate

feedback poses a problem, and sometimes there are support difficulties from the school district. Also, two respondents said the implementing of electronic performance facing some difficulties, and some school leaders are not interested in managing electronic performance.

Third, the obstacles related to electronic performance processes. Many respondents reported several points including: the standards and criteria of electronic performance have not existed, there is no alignment between electronic performance and outcomes, sometimes the duties of electronic performance are not clear and specific, there is no electronic performance appraisal and agreement, the target performance is not clear, and the goals and objective of electronic performance are not clear.

Finally, there are obstacles related to the professional development of all school members. Many responses emphasized the lack of awareness of school leaders regrading electronic performance. The most programs of professional development that implemented for school leaders and teachers are not related to their interests and needs in terms of electronic performance process. Additionally, one respondent said many school leaders have misconceptions about the differences between electronic performance and normal performance. It is notable that appropriate professional development training programs must be offered for all school members in order to increase their abilities on electronic performance.

Discussion of Findings:

In this section, the findings were discussed. It discussed the findings of quantitative stage, and the findings of qualitative stage. Frist, the study found that the overall mean for phases of electronic performance management classified as “high". This finding might indicate that school leaders recognize the significance of these phases to managing performance, particularly electronic performance in public schools. This finding is compatible with Pulakos (2009); and Chubb et al. (2011), who found that the performance management must be conducted through many phases that ensure the effectiveness of this process. Also, this finding could

indicate that the electronic performance management as a new approach is required and necessary in this digital era. Similar to other findings, which indicated that educational digital platforms have been important tools in education worldwide for all students, teachers, staff and school leaders (Petrison & Petrison, 2021; Hartong, 2021; Williamson, 2015; Landri, 2018; Romito et al., 2019). In fact, it can be concluded that the school leaders are required to practice electronic performance management through sequence phases. Like any other performance management types, the electronic performance management includes its specific phases in terms of its goals, procedures, and tools.

According to the findings of this study, all dimensions of electronic performance management as perceived by public school leaders and the overall mean score were classified as "high". These findings may conclude that the school leaders have seen the electronic performance management as a comprehensive process that relates to all aspects in school including behaviors, activities, and outcomes. Relevant literature and studies support this explanation. Jonyo & Jonyo (2016); and Hidayat & Wulandori (2020) provided multiple dimensions for performance management that must cover all aspects and individuals' performance to achieve intended goals. Furthermore, Paul et al. (2020); and Payne et al. (2018) discussed the electronic performance management and pointed out that these dimensions cover all aspects of school members' performance. Indeed, if the school leaders want to succeed in their electronic performance management, they have to cover all electronic efforts for teachers and other staff. The school leaders need to comprehend all aspects of electronic performance in schools.

The study found a significant difference among participants based on gender and educational qualification because the mean score of female participants was significantly higher than males. This finding may indicate that the female school leader participants were more concerned regarding electronic performance management. Also, female school leaders prefer to be diligent in actions to manage electronic performance.

The study found a significant difference among participants based on educational qualification because the mean score of bachelor participants was significantly higher than males. This finding may conclude that the school leader participants who have bachelor were regarding electronic performance management.

Interestingly, the findings did not find any significant differences between groups with different years of experience. This finding may conclude that the different years of experience did not influence school leaders' insights and perceptions because the electronic performance management is a current issue in public schools. Consequently, all participants with different experience equally have the same perceptions regarding the phases and dimensions of electronic performance management in public schools. This explanation is supported by the findings of Petrison & Petrison (2021); Hartong (2021); Williamson (2015); Landri (2018); and Romito et al. (2019), who emphasized that there is a massive use of a new digital platform in schools around the world. Certainly, the electronic performance management process has been necessary for all schools in this digital era. This means that all school leaders and teachers use technology and platforms to perform their duties and responsibilities.

The second sub-section discussed the qualitative findings considering the relevant literature and studies. The discussion refers to some concepts related to the obstacles of managing the electronic performance found in this study. Furthermore, the exchanges among these concepts are critical for a comprehensive understanding of these obstacles. Two concepts were identified to label the more common obstacles existing within the schools. These obstacles impact the school leaders' practice to manage electronic performance.

First is the current systematic change in education in this era. This concept is related to all changes in education, including management, learning, teaching, producers, actions, development, work environment, rising technology, and public mandates. These changes are growing rapidly in education. This is supported by Bidaki (2004) who stated that the electronic performance

management as a system is used to manage the performance of virtual and distance work as a critical change in educational institutions. Additionally, other relevant literature and research studies emphasized these changes in education globally that must be considered (Petrison & Petrison, 2021; Hartong, 2021; Williamson, 2017; Landri, 2018; Romito et al., 2019).

Last, all school members are affected by this systematic change. This concept refers to such changes have on a comprehensive effect on school organization, leaders, teachers, staff, students. More specifically, when the changes occur, they occur throughout the system and affect all individuals in the whole organization. It is important to notice that all individuals in school are required to increase and develop their skills and competencies to meet the need requirements of this systemic change and get the benefits of that. Studies of Paul et al. (2020); Jeske & Santuzzi (2019); and Ravid et al. (2020) indicate that the individuals in schools and their actions and behaviors are important keys for electronic performance management.

Conclusion Recommendations:

This study investigated the electronic performance management as perceived by public school leaders. The study found electronic performance management includes three phases: planning and preparation phase, implementing and monitoring phase, and evaluation and review phase. All these phases were classified as "high". Additionally, the study identified eight dimensions for electronic performance management. All dimensions were classified as "high". Finally, the study discovered four obstacles facing electronic performance management. According to, study findings and limitations, the following implications were presented.

To ensure the professional development for all school members who use technology and digital platforms, the needs training and skills must be determined. This will help to provide accurate development programs that will increase all school members skills and abilities. Additionally, conducting specific development programs for school leaders will enhance their management skills to manage electronic performance effectively.

Finally, to manage electronic performance in like manner, decisionmakers and policymakers are required to include electronic performance as a section in current performance appraisal.

Further studies need to be conducted to investigate school leaders' skills to manage electronic performance in public schools. Also, a study needs to investigate school leaders' attitudes regarding the electronic performance management in public schools. These recommended studies might provide scholars with valuable chances to get an in-depth knowledge related to electronic performance management in public schools.

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