The Impact of Knowledge Inertia on Employee Innovative Behavior: *An Applied Study on Public Secondary Schools Teachers in Mansoura City*

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Abstract:

This study aimed to determining the impact of knowledge inertia on employee innovative behavior. A questionnaire was used to collect data from 353 teachers of public secondary schools in Mansoura city (with 90.٩٣% response rate). Multiple Regression analysis was employed to test the research hypotheses using the software (SPSS V.25). The study findings showed that there aren't significant differences between public secondary schools teachers' perceptions regarding the study variables (knowledge inertia- employee innovative behavior) according to their demographic characteristics (age and gender), Furthermore, the study revealed that there is a significant negative impact of knowledge inertia on idea generation. Moreover, knowledge inertia has a significant negative impact on idea promotion. Finally, the results showed that knowledge inertia has a significant negative impact on idea implementation.

Keywords: Knowledge Inertia, Employee Innovative Behavior.

الملخص

استهدفت هذه الدراسة تحديد تأثير جمود المعرفة على السلوك الابتكاري للموظف. واعتمد البحث على قائمة الاستقصاء لجمع البيانات من ٣٥٣ معلمًا بالمدارس الثانوية الحكومية بمدينة المنصورة (بنسبة استجابة ٩٠.٩٣%). وتم استخدام تحليل الانحدار المتعدد لاختبار فروض البحث باستخدام برنامج (SPSS V.25). وأشارت النتائج إلى عدم وجود فروق معنوية بين آراء معلمي المرحلة الثانوية بالمدارس الحكومية فيما يخص متغيري (جمود المعرفة، السلوك الابتكاري) وفقاً لخصائصهم الديموغرافية (العمر، النوع). بالإضافة إلى وجود تأثير معنوي سلبي لجمود المعرفة على توليد الأفكار. كما توصلت إلى وجود تأثير معنوي سلبي لجمود المعرفة على ترويج الأفكار. وأكدت النتائج وجود تأثير معنوي سلبي لجمود المعرفة على تنفيذ الأفكار.

الكلمات الرئيسية: جمود المعرفة، السلوك الابتكاري للموظف.

1. Introduction

The learning and education sector constitutes one of the unique systems in any society that educational organizations are of great importance for realizing social, cultural and economic goals, which make its relationship with the local community that embraces it of a dynamic and influential nature, also the possession of knowledge assets, unique and dynamically talents such as innovative and effective teachers who are the basis of the teaching and learning process as well as the key to any educational system's advancement (Teofilus et al., 2022). Since technological and social changes and crises experienced with the information revolution make it necessary to keep up with the changes in order to remain educational organizations sustainable and efficient (Akpolat, 2023), Hence, learning new things, solving problems and developing core competencies are all made attainable by knowledge, which is both a power and a resource for individuals and organizations. For this reason, acquiring knowledge and using it to organizational tasks is essential (Karayel, 2020).

In contrast, with the driving force created by technological and social changes for the transformation of educational organizations, crisis periods bring with them situations of uncertainty (Akpolat, 2023), which make organizations don't always innovate and resist learning and change, that causes them to fall into trap of immobile, as individuals frequently utilize their prior experience and knowledge for new problems, leading them to create similar solutions for related problems. This common approach of routine problem solving refers to "knowledge inertia" (Karayel, 2020). Liao et al., (2008); Wang and Yang, (2013); Rahman and Siswowiyanto, (2018) defined knowledge inertia as a routine problem-solving mechanism by an individual who prefers to use intuition, continuous perception of problems and previous experiences as a foundation for problem-solving, with no effort to add sources of knowledge to solve specific problems.

Aryasa et al., (2017) stated that knowledge inertia inhibits companies to learn and acquire knowledge about new technology, products and expertise, since their problem solving methods lack innovation and rely more on past and outdated knowledge and experience. As a result, organizations remain rigid and resistant to change (Hur et al., 2019; Rahimi et al., 2020). According to, AlKayid,

(2022), Creating new and beneficial ideas is a critical aspect for organizational innovation to address several opportunities and challenges, but when inertia ingrained in an enterprise, individuals desire to respond instantly depending on their competence and expertise, as they resist changes that would decrease value of their specific skills (Delfgaauw & Swank, 2016), implying that the primary obstacle to innovation may be inertia.

2. Theoretical Framework

The researchers demonstrated each of the study variable's definitions and dimensions as follows:

2.1. Knowledge Inertia

Knowledge inertia theory was proposed first by (Liao, 2002). Song et al., (2022) has been defined knowledge inertia as "the tendency of an individual to use habitual problem solving procedures, familiar sources of knowledge, past experience or knowledge to solve new problems". Accordance with path dependence theory, knowledge inertia is an organization's propensity to solve problems repeatedly using the same approach based on prior experience and knowledge (Fu et al., 2021), this propensity maintains the knowledge system in it's original state, generating inertial problems-solving procedures, experiences and thought patterns, that form the thinking habits derived from the individual's learning manner and cognition, in order to save time, effort and avoid the risk of change, and this can be regarded as the primary cause for knowledge inertia (Song et al., 2022).

Wang and Yang, (2013); Karayel, (2020) indicated that knowledge inertia's influencing factors might be organizational and individual, while information technology and centralization of an enterprise are instances of organizational factors, among individual determinants are an acceptable level of available knowledge and readiness to adopt new issues, since individuals who have specific tacit knowledge don't desired to give up their current knowledge for the sake of new knowledge that could not align with their own goals, as when there is unwilling to learn novel things, employees resort to their existing knowledge to solve problems (Zhou et al., 2022).

Furthermore, Knowledge inertia causes organizations to concentrate on their current business and operation mode, disregard new information and adhere to past experiences which is not conducive to forming new knowledge or conducts (Fu et al., 2021). But if everything is based on previous knowledge and experience without being revised and updated, the way to problem solving will be predictable and inertial, which may endanger the organization (Ebrahimi, 2016).

2.1.1. Dimensions of Knowledge Inertia

According to Rahman & Siswowiyanto, (2018) knowledge inertia has three sub-dimensions: Experience inertia, learning inertia and procedural inertia, As following;

2.1.1.1) Experience Inertia

Experience inertia can be conceptualized as resistance and unwillingness to explore or apply novel approaches to problem solving, as well as sticking with old and already experienced ones (Liao, 2002; Liao et al., 2008; Özgenel & Çetin, 2021).

2.1.1.2) Learning Inertia

Learning inertia refers to the inefficiency and reluctance to search new information sources and acquire new concepts, ideas and techniques, this implies that people believe they have enough experience and knowledge to handle any issue they encounter, and they do not need to add new knowledge or learn new skills (Rahman & Siswowiyanto, 2018; Özgenel & Çetin, 2021).

2.1.1.3) Procedural Inertia

Procedural inertia is known as routine reliance on established procedures for problem solving and dealing with new situations (Liao, 2002; Sillic, 2019).

2.2. Employee Innovative Behavior

Shin et al., (2016); Fatemi et al., (2022) stated that, to be superior in innovation, organizations tend to improve their employees' knowledge, skills and

abilities. Since ideas are the foundation of innovation, which are generated by employees, who "develop, carry, react to and modify ideas" (Shafaei and Nejati, 2023). So the need to demonstrate innovative behaviors from employees is crucial, that it aids businesses in remaining competitive and adapt quickly to changes (Amankwaa et al., 2022). Wang et al., (2018); Wu et al., (2021) Employees' innovative behavior is categorized as positive deviant behaviors because it allows individual to challenge the status quo and deviate from current norms for accomplish the desired outcomes that benefit the organization. Qi et al., (2019) stated that employee innovative behavior focused on the innovation process, rather than the innovation outcome (i.e., new products), in which engaging in the innovation process is a prerequisite for the production of innovative outcomes (Shin et al., 2017).

Hakimian et al., (2016); Dedahanov et al., (2017); Asurakkody & Shin, (2018); Ghasempour Ganji et al., (2021); Ayoub et al., (2023) suggest several factors have been examined as the determinants of employee innovative behavior including organizational climate and culture, job characteristics, relationships with superiors, knowledge management, leadership style, individual differences such employee risk taking behavior, individual's flexibility, social contexts and employee engagement. Nguyen et al., (2023) defined employee innovative behavior as a "The process that allows employees to release their creative potential and make effective use of their knowledge, abilities and experience to develop valuable ideas and create new products and services to enhance performance or resolve difficulties related work".

2.2.1. Dimensions of Employee Innovative Behavior

This research depends on the following three dimensions of employee innovative behavior: idea generation, idea promotion and idea implementation according to (Janssen, 2000).

2.2.1.1) Idea Generation

Kmieciak, (2021) defined idea generation as a creative behavior intended to exploring and generating novel, original approaches and solutions to problems, including new working methods and techniques, which requires behaviors such as

cognitive flexibility and openness in order to create new insights or solutions to problems (Grobben, 2022; Khan et al., 2022).

2.2.1.2) Idea Promotion

Alarifi and Adam, (2023) refer to idea promotion as "Behavioral activities aimed at gaining support and endorsement for ideas proposed by management and coworkers, as well as obtaining approval from top management to allow the idea to be realized", since this stage requires sociopolitical skills, networking abilities and social influence (Khan et al., 2022).

2.2.1.3) Idea Implementation

Norouzinik et al., (2022) indicated to idea implementation as more practical efforts in converting new ideas into practical solutions and implementing them in organizational work activities, resulting in actual tangible changes to products, services, processes, or other aspects of organizational functioning, Li et al., (2021) stated that idea implementation stage requires more supportive resources, closer employee cooperation and combining knowledge and skills, as not implementing creative ideas wastes knowledge resources (Baer, 2012 ; Huo et al., 2017).

3. Literature Review and Hypotheses Formulation

The relationship between study variables were clarified and shown in fig (1), as following;

3.1. Demographic Characteristics (Age & Gender) Studies

According to, Jung, (2001); Pieterse et al., (2010) found that gender was unrelated to innovative behavior, but age related to innovative behavior. Fang et al., (2011) indicated that organizational learning and organizational innovation have a positive relationship, which was negatively moderated by knowledge inertia, while individual variables such as age had no significant relationship with either construct. Gu et al., (2015); Battistelli et al., (2019); Chen et al., (2021) stated that age and gender have significant effect on individual innovative behavior.

Regarding to knowledge inertia, Rahman and Siswowiyanto, (2018) concluded that people's willingness to learn something new is highly influenced by their age and gender. Sanders et al., (2018) showed that gender was positively related to innovative behaviors, as men exhibiting possibly more innovative behaviors, while employees age wasn't significantly related to innovative behaviors. Dedahanov et al., (2019); Liu et al., (2019); Arasli et al., (2020); Yang et al., (2022); Shafaei and Nejati, (2023) indicate that employee gender and age don't have a significant influence on innovative behavior. Based on that, the study proposes the following hypothesis:

H1: There are significant differences between public secondary schools teachers' perceptions regarding the study variables (knowledge inertia - employee innovative behavior) according to their demographic characteristics (age and gender).

This hypothesis is divided into two sub-hypotheses:

H1a: There are significant differences between public secondary schools teachers' perceptions regarding the study variables (knowledge inertia - employee innovative behavior) according to age.

H1b: There are significant differences between public secondary schools teachers' perceptions regarding the study variables (knowledge inertia - employee innovative behavior) according to gender.

3.2. Knowledge Inertia and Employee Innovative Behavior Studies

According to, Liao, (2002); Hosseini et al., (2013) found that innovation and knowledge inertia are negatively related. Liao et al., (2008); Fang et al., (2011); Shahabi and Jalilian (2011); Shalikar et al., (2011); Taft et al., (2011) revealed that knowledge inertia negatively moderated the relationship between organizational learning and organizational innovation, as when knowledge in an organization becomes static, it has a negative effect on organizational innovation, As well as, learning inertia and experience inertia are negatively correlated with organizational innovation. Sharifirad, (2010) stated that knowledge inertia has a negative impact on organizational learning, and learning inertia influence

negatively organizational learning. Cavus et al., (2014); Rahimi et al., (2020) agreed that entrepreneurial behavior was negatively correlated with knowledge inertia including it's dimensions which are learning inertia and experience inertia.

Xie et al., (2016) revealed that experience inertia and learning inertia are two dimensions of knowledge inertia positively impact product innovation, while, procedural inertia didn't affect significantly negatively product innovation. Zhang and Xu, (2017) found that knowledge inertia with its subdimensions, experience inertia and learning inertia have negative effect on knowledge absorptive capabilities and doctors' adoption intentions for medical equipment. Similarly to, Purc & Laguna, (2019) concluded that employees' openness to change has a positive relationship with their innovative behavior. Whereas, Rezaee & Shirazian, (2020) showed that knowledge inertia has a significant impact on knowledge sharing capabilities, moreover, the findings showed that knowledge inertia and it's dimensions (experience inertia, learning inertia and procedural inertia) has a significant effect on the strategic learning capabilities of the organization. Yu et al., (2020) supported that knowledge inertia moderates the relationship between business model innovation and organizational search. While, Zhou et al., (2022) revealed R&D team creativity and knowledge inertia have a negative association which is moderated by the capacity for intentional unlearning. Based on that, the study suggests the following hypotheses:

H2: There is a significant negative impact of knowledge inertia on idea generation.

H3: There is a significant negative impact of knowledge inertia on idea promotion.

H4: There is a significant negative impact of knowledge inertia on idea implementation.

3.3. Conceptual Framework of the Research:

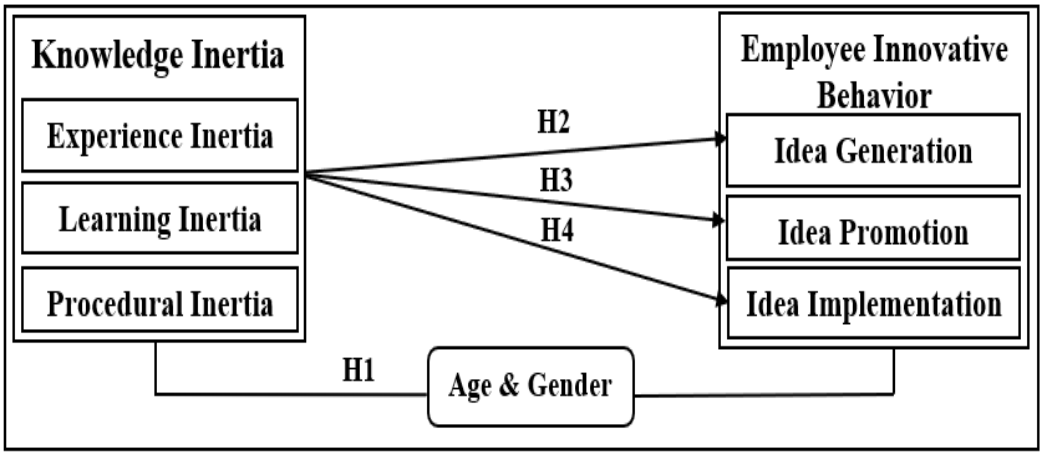

Figure (1): The proposed model for the study.

Source: Made by the researchers based on literature review.

4. Comments on Previous Studies:

In line with what has already been discussed in the earlier studies, it has been observed that:

Numerous studies have examined the relationship between knowledge inertia and entrepreneurial behavior, product innovation, business model innovation and organizational innovation.

To the researchers' s best knowledge, no prior studies investigated the influence of knowledge inertia on employee innovative behavior, as (Wang & Yang, 2013) contend that almost no research has directly examined the relationship between knowledge inertia and individual innovation behavior.

According to (Wang & Yang, 2013) who inferred theoretically that knowledge inertia has a certain relationship with individual innovation behavior, As has been stated that still much more necessary to explore the connotation and influential factors of knowledge inertia and its impact on individuals' learning and innovating, which represent the research gap and the main focus of this research.

5. Research Problem and Research Questions

In order to identify the research problem, a pilot study has been conducted using personal interviews with 30 teachers in the public secondary schools in Mansoura city, the following phenomena were revealed by the sample's responses to a series of questions the researchers posed:

- Low levels of participation in improving work methods and search out solutions for problems.
- Lack of freedom to introduce new ideas.
- Shortage of support for new ideas.
- Deficiency in implementing new ideas.

In light of past phenomena, the researchers found that there is a deficiency in teachers innovative behavior working in the public secondary schools in Mansoura city. These problems can be explained in the following questions:

- Are there significant differences between public secondary schools teachers' perceptions according to study variables (knowledge inertia-employee innovative behavior) in terms of demographic characteristics (Age- gender)?
- What is the impact of knowledge inertia on idea generation?
- What is the effect of knowledge inertia on idea promotion?
- Does knowledge inertia affect idea implementation?

6. Research objectives:

This research aimed to:

- Knowing the existence of significant differences between public secondary schools teachers' perceptions according to study variables

(knowledge inertia- employee innovative behavior) based on their demographic characteristics (Age- gender).

- Studying the impact of knowledge inertia on idea generation.
- Determining the impact of knowledge inertia on idea promotion.
- Recognizing how knowledge inertia affect idea implementation.

7. Research Importance:

The importance of this research can be seemed at both scientifically and practically in the following aspects:

7.1. Scientific Importance

1. Filling the gap related to previous studies by examining these relationships between knowledge inertia and employee innovative behavior that were uncovered and ignored by the researchers.
2. This research addresses two topics that are relevant to today's workplace which are employee innovative behavior and knowledge inertia, and that will help to fine-tuning of these subjects' literature.

7.2. Practical Importance

- Providing a safe, motivating and helpful working environment in which teachers feel comfortable sharing ideas and constructive criticism to improve performance.
- Designing efficient training programs for public secondary schools' managers and teachers to improve leadership skills and increasing teachers capacity to negotiate and interact with innovative activities.
- Motivating teachers to change their old behaviors and thoughts, seeking and using new resources.

- Assisting schools in using new problem solving approaches and modifying management systems.

- Increasing educational sectors self-financing resources by improving public secondary schools' efficacy.

- Connecting services and activities offered by public secondary schools to the needs of local community by enhancing teachers ability to innovate.

8. Research Methods

8.1. Sample and Data Collection

The study adopted positivism philosophy with a quantitative research method to confirm the proposed framework. Stratified random sampling was employed. Additionally, Primary and secondary data were used. Using a questionnaire, primary data were gathered from public secondary school teachers in Mansoura city; while collected secondary data from existed material. According to Malhotra and Peterson, (2001), questionnaires are the appropriate way to collect quantitative primary data, as well as the most suitable method for conducting explanatory research (Saunders et al., 2009).

The total number of teachers in 42 public secondary schools is 4275. The researcher uses Decision Analyst STATS 2.0 application to determine the sample size which is 353, and collects only 321 questionnaires were statistically valid and free of missing data, with a response rate of 90.93%.

8.2. Measures

A questionnaire using 5-point Likert scales (5 = strongly agree to 1 = strongly disagree), is employed to collect measures for the main constructs. Each of the constructs is measured using scales that are developed based on previous literature, and use existing scales when possible. knowledge inertia is measured by four items according to (Yu et al., 2020) scale. Whereas, Employee innovative behavior is measured by (Janssen, 2000) scale that consists of (9) items. Also, The other section involving respondents' demographic characteristics which

includes teacher's age and gender. All the questions that are mentioned are closed-ended.

9. Results

9.1. Research Sample Description

The majority of age groups are (50 years and over), at a rate of 56.7%, with 182 respondents. While the age group (from 40 years to less than 50 years) ranked second according to the sample members, at 23.7%, with 76 respondents. The age group (from 30 years to less than 40 years) ranked third according to the sample, at 13.4%, with 43 respondents. In the last ranking, the age group (less than 30 years) came at a rate of 6.2%, with 20 respondents.

In terms of gender, Of the 166 people who participated in the study, 51.7% determined as female, making this the most popular demographic, while males came at number two, 48.3% (or 155 respondents) of the sample.

9.2. Results of Descriptive Analysis:

The descriptive analysis of study's data contributes to showing the relative significance of the study variables and it's dimensions which are represented in two variables: knowledge inertia that has three dimensions, and employee innovative behavior which has three dimensions.

Table (1): Descriptive Analysis of the Study Variables and Dimensions

	Item Code	Mean	Std. Deviation
Knowledge Inertia (Independent Variable)			
Experience Inertia	KWI1	3.97	1.073
	KWI2	3.73	1.079
Learning Inertia	KWI3	3.88	1.093
Procedural Inertia	KWI4	4.16	1.246
Employee Innovative Behavior (Dependent Variable)			
Idea Generation	IG1	2.84	1.328
	IG2	2.36	1.165
	IG3	2.69	1.338
Idea Promotion	IP1	2.77	1.196
	IP2	2.83	1.315
	IP3	2.66	1.339
Idea Implementation	II1	2.12	1.175
	II2	2.53	1.275

	II3	2.27	1.209

Source: statistical analysis output.

Table (1) shows that teachers' perceptions regarding knowledge inertia tended to be positive with a mean representing (3.93) reflects that teachers acknowledge for the existence and availability of knowledge inertia with it's dimensions in the schools where they work, whereas regards to employee innovative behavior teachers' perceptions tended to be negative with a mean representing (2.56) indicate a low level of innovative behavior for teachers of public secondary schools.

9.3. Results of Reliability Analysis and Validity Discriminant

The results of reliability analysis and discriminant validity are displayed in the following tables. Scale reliability can be assessed using Cronbach's alpha coefficient, While discriminant validity is determined through using the square root of alpha Cronbach.

Table (2): Results of Reliability and Validity for Knowledge Inertia

Variables	Number of Items	Cronbach's alpha	Discriminant Validity
Knowledge Inertia	4	0.823	0.907

Source: statistical analysis output.

Table (3): Results of Reliability and Validity for Employee Innovative Behavior

Variables	Dimensions	Number of Items	Cronbach's alpha	Discriminant Validity
Employee Innovative Behavior	Idea Generation	3	0.840	0.916
	Idea Promotion	3	0.741	0.860
	Idea Implementation	3	0.809	0.900
Reliability And Validity Coefficient For Employee Innovative Behavior		**9**	**0.899**	**0.948**

Source: statistical analysis output.

From tables (2); (3) show that all scale items have acceptable reliability and validity coefficient values, with alpha coefficient values ranging from 0.823 to 0.899. This indicates that the more reliable the scale, the higher the Cronbach's alpha, which is greater than 0.7; Additionally, each discriminant validity is greater than its correlation with other constructs, which range from 0.907 to 0.948. Therefore, these findings contend that discriminant validity rule is achieved.

9.4. Hypotheses Testing

9.4.1. Testing Differences Between Teachers' Perceptions Age-Based

The researchers used an ANOVA test to determine the significant differences between teachers' perceptions of study variables (knowledge inertia-employee innovative behavior) based on age, as follows:

Table (4): Results of Testing Hypothesis (H1.a)

Variables	Age	N	Mean	P-Value	Result
Knowledge Inertia	Less than 30 years	20	3.92	**0.621**	**Rejected**
	From 30 to less than 40 years	43	4.01		
	From 40 to less than 50 years	76	4.08		
	50 years and more	182	3.97		
Employee Innovative Behavior	Less than 30 years	20	2.31	**0.262**	
	From 30 to less than 40 years	43	2.47		
	From 40 to less than 50 years	76	2.58		
	50 years and more	182	2.51		

Source: Prepared by the researchers according to according to statistical analysis (ANOVA) test.

Table (4) demonstrates that there aren't significant differences between teachers' perceptions, as the values were non-significant, meaning that there aren't differences between teachers' perceptions regard to knowledge inertia and employee innovative behavior according to age and thus the first sub-hypothesis was rejected.

9.4.2. Testing Differences Between Teachers' Perceptions Gender-Based

The researchers used T-Test to test significant differences between public secondary school teachers' perceptions according to the research variables (knowledge inertia- employee innovative behavior) based on gender, which can be clarified in table (5) as follows:

Table (5): Results of Testing Hypothesis (H1.b)

Variables	Gender	N	T	Mean	P-Value	Result
Knowledge Inertia	**Males**	155	-0.327	3.92	**0.427**	**Rejected**
	Females	166		4.03		
Employee Innovative Behavior	**Males**	155	0.214	2.31	**0.716**	
	Females	166		2.44		

Source: Prepared by the researchers according to statistical analysis (T-test).

Table (5) demonstrates that there aren't significant differences between teachers' perceptions, as the values were non-significant, meaning that there aren't significant differences between teachers' perceptions regard to knowledge inertia and employee innovative behavior according to gender, thus the second sub-hypothesis was rejected.

9.4.3. Multiple Stepwise Regression Analysis of the Study Variables

The researchers tested this second, third and fourth hypotheses using the multiple stepwise regression analysis method to measure the impact of knowledge inertia with it's dimensions on idea generation, idea promotion and idea implementation as illustrated in the following tables:

Table (6): Results of Testing Hypothesis (H2)

H	Dependent Variables	Independent Variables	B	Beta	T	Sig	R^2	F
H2	**Idea Generation**	**Experience Inertia**	-0.814	-0.622	-2.247	0.00**	**0.521**	**11.246 ** (0.00)**
		Learning Inertia	-1.378	-1.112	-1.882	0.031*		
		Procedural Inertia	-1.247	-0.894	-2.618	0.00**		

Source: prepared by researchers based on statistical analysis. * = Significant at 0.05, ** =Significant at 0.01

Table (7): Results of Testing Hypothesis (H3)

H	Dependent Variables	Independent Variables	B	Beta	T	Sig	R^2	F
H3	Idea Promotion	Experience Inertia	-0.622	-0.594	-2.109	0.027*	0.468	17.427** (0.00)
		Learning Inertia	-1.211	-1.107	-1.921	0.00**		
		Procedural Inertia	-1.197	-0.942	-2.414	0.00**		

Source: prepared by researchers based on statistical analysis. * = Significant at 0.05, ** =Significant at 0.01

Table (8): Results of Testing Hypothesis (H4)

H	Dependent Variables	Independent Variables	B	Beta	T	Sig	R^2	F
H4	Idea Implementation	Experience Inertia	-0.606	-0.881	-2.142	0.00**	0.492	22.316** (0.00)
		Learning Inertia	-1.322	-1.302	-1.711	0.00**		
		Procedural Inertia	-1.218	-0.985	-2.381	0.00**		

Source: prepared by researchers based on statistical analysis. * = Significant at 0.05, ** =Significant at 0.01

As shown in tables 4 and 5, the hypothesis H1 is rejected where there aren't significant differences between teachers' perceptions regarding the study variables (knowledge inertia- employee innovative behavior) according to their demographic characteristics (age and gender).

Table (6) reveals that Hypothesis H2 is supported where knowledge inertia with (β = -0.809, P < 0.05; f = 0.00) have a negative, and significant, influence on idea generation.

Table (7) shows that Hypothesis H3, is also supported as knowledge inertia with (β= -0.330, P < 0.05; f = 0.00) has a negative, and significant, influence on idea promotion.

Table (8) reveals that Hypothesis H4, is also supported knowledge inertia (β= -0.889, P< 0.05; f = 0.00) has a negative, and significant, influence on idea implementation.

So, the hypothesis H1 is rejected. While, H2, H3, H4 are supported.

10. Discussion and Conclusion

The results of this research agree partially with many studies (Dedahanov, 2019; Liu, 2019; Arasli, 2020; Yang, 2022; Shafaei and Nejati, 2023) which indicate that employee gender and age don't have a significant influence on innovative behavior. This finding is in line partially with (Fang et al., 2011), who came to the conclusion that there is no significant differences in knowledge inertia based on age.

The findings of this research are in the same line partially with previous studies' results which indicated that knowledge inertia with it's sub dimensions, learning inertia and experience inertia had a negative effect on organizational innovation (Liao, 2002; Liao et al., 2008; Fang et al., 2011; Shalikar, 2011; Taft et al., 2011; Zhang and Xu, 2017; Yu et al., 2020; Fu et al., 2021). While, the outcomes differ with the study of (Xie et al., 2016), which found that knowledge inertia through learning inertia and experience inertia has a positive effect on product innovation, whereas procedural inertia wasn't affect significantly negatively product innovation.

From the researchers view, this was primarily due to learning inertia that will influence schools teachers' refusal for accepting new knowledge and ideas, making it challenging to change the old way of thinking. Since when learning inertia is low, then experience inertia will be low (Sillic, 2019). Besides, Experience inertia that making organizational members dismiss novel approaches attempts and participating in innovative activities, as well as unwilling to absorb and learn new knowledge, consequently, discovering an creative problem-solving methods is impeded. As well as, the greater procedural inertia, the more likely it is that will turn to the past to face current and possible future problems, which will inhibit innovation (Rahman & Siswowiyanto, 2018), resulting in knowledge inertia that limits learning and dissemination of new knowledge, experience and

thinking patterns within the organization, leads to a lack of creative thinking, innovative behavior, preventing knowledge application and creating organizational resistance to learning and problem solving, that negatively impacts utilizing knowledge efficiently and effectively. Besides, when there is a high level of knowledge inertia, organizations tend to using existing knowledge to solve problems and abandoning new knowledge, leading to failure of innovation. furthermore, businesses readily accept new knowledge when knowledge inertia is low (Yu et al., 2020).

The study aimed to investigate, elaborate, and discuss knowledge inertia influence on employee innovative behavior for public secondary schools teachers. Hence, using the existing literature review as a basis, a model included these two constructs was created. The research used data collection instrument which the questionnaire that was directed to a group of public secondary schools teachers in Mansoura city which their number were 4,275, the sample size was 353, only 321 questionnaires were statistically valid and free of missing data, with response rate 90.93%. Additionally, SPSS V.25 was utilized for verifying the research hypotheses. Multiple regression analysis, T-test and ANOVA test were investigated by the researchers, as well as validity and reliability that showed an acceptable level for both. Furthermore, research hypotheses were assessed, the results showed that every research hypothesis was accepted, with the exception of the first hypothesis, which along with its sub-hypotheses, which was rejected. Public secondary schools teachers showed low levels of innovative behavior due to the existence of knowledge inertia with it’s dimensions which are experience inertia, learning inertia and procedural inertia.

10.1. Theoretical and Practical Implications

This research adds to corpus of literature on knowledge inertia and employee innovative behavior. Regarding this, the study provides a number of theoretical and academic contributions by combining new research streams that haven't been checked previously and addressing some of research gaps in knowledge inertia and employee innovative behavior. Firstly, this research shedding light on possible risks for knowledge inertia and how it inhibits innovative behavior, the results revealed that the three dimensions of knowledge inertia which are experience inertia, learning inertia and procedural inertia

negatively influence employees' innovative behavior. Secondly, the findings regarding the links between knowledge inertia and employee innovative behavior contribute to the expanding body of empirical research on the negative side of knowledge inertia of educational staff, that will reflect negatively on innovative behavior, and subsequently will decrease organizational learning and overall performance. Finally, the findings of this study opened a window for other researchers to conduct researches on both knowledge inertia and employee innovative behavior.

This study offers important guidelines and practical implications for public secondary schools top management, as suggested that public secondary school can enhance teacher's innovative behavior via reducing the knowledge inertia.

- Establish a culture of continuous organizational learning through building channels and platforms to obtain new information and knowledge from multiple sources and implement an incentive system and support systems that foster an organizational learning culture by providing autonomy and opportunities for functional knowledge sharing, intellectual capability development and professional experience accumulation, to inspire teachers intrinsically to learn new skills at work, which will increase their involvement in innovative pursuits.
- Encourage teachers to acquire knowledge, share knowledge with those who need it, and allow mistakes because without it, learning would not occur, which leads to the rejection of outdated knowledge and the release of creativity, which in turn creates a collaborative, healthy work environment that produces innovative ideas.
- Remove organizational procedural obstacles, through deliver new technique and insight into increasing people' s desire to try, explore new ideas, approaches and solutions to solve problems and get new experience as well as sharing of accumulated experience can enhance organizational learning ability and foster innovative performance.
- Providing a variety of training and development opportunities, including those in interpersonal communication, problem-solving skills, knowledge transfer and strategic thinking to enhance teachers ability to learn new skills

and techniques, apply new knowledge and avoiding the dependence of old knowledge and past experience.

- Use of feedback as a practice, through development of a system of rewards, channels of constructive feedback and positive communication that help teachers overcome barriers encountered in their innovative work and rewarding and commending teachers' innovation behavior.
- Encourage interaction and cooperation among members to implement ideas.
- Develop a suitable system for allocating resources for innovation and evaluating it to avoid failure in implementing good ideas, and focus on ideas that are "valuable and implementable" and provide both intangible resources as (psychological support) and tangible resources such (training, idea championing, and access to resources) required for successful idea implementation, even if their ideas are not implemented, it also recommends to explain why the idea is not deemed actionable, to avoid demotivation.

10.2. Limitations and Future Research

The present study provides significant theoretical and practical implications, and it suggests that future research should employ the qualitative method through using person-to-person interviews to get more evident results regarding to improve innovative behavior. The researchers gathered data from public secondary schools as an instance of a developing country. Thus, a comparative study of public secondary schools in developed and developing nations would yield significant results and contributions. As a result, the study suggests that future research should rely on a larger sample size from various sectors such as drawing a comparison between secondary schools in public and private sectors. Based on the study's findings, the following recommendations for future researches;

- Study the effect of knowledge inertia on organizational change as well as knowledge inertia as a dependent variable for leadership styles (visionary-toxic - transformational).
- Studying the relationship between knowledge inertia and counterproductive work behavior.

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