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ARTICLE

From Bureaucracy to Expertise: Empowering Knowledge Workers in Public Service (The Case of the Directorate General of Customs and Excise)

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ABSTRACT
The Directorate General of Customs and Excise (DGCE) is undergoing a transformative process aligned with bureaucratic reform objectives to achieve world-class status. This transition involves a shift from structural to functional roles, focusing on prioritizing expertise and skills. In this evolving environment, functional officers are increasingly recognized as akin to knowledge workers, highlighting the need for strategic HR approaches to maximize their knowledge as a core asset. This study examines the impact of approaches that enhance knowledge worker productivity (KWP) on functional officers by promoting personal knowledge management (PKM) through idiosyncratic job design reflected in dimensions, such as job definition, job autonomy, innovation as a job requirement, and lifelong learning orientation. Data was gathered from 249 functional officers at the DGCE through Google Forms. The Structural Equation Modeling method, employing a Partial Least Square, was utilized for data analysis. The findings reveal several vital insights: job definition and lifelong learning orientation emerge as significant positive drivers of PKM. While job autonomy exhibits a positive effect, it is not statistically significant. Interestingly, innovation as a job requirement demonstrates a non-significant negative impact. Moreover, the study underscores the significant and positive influence of PKM on KWP. Based on these findings, the study recommends an organizational redefinition of functional officer productivity, providing organizational support to foster an environment conducive to PKM. Additionally, it recommends clarifying the scope of functional officer responsibilities and authorities, alongside optimizing the role of direct supervisors as facilitators, bridging the gap between the organization and functional officers.

A. INTRODUCTION

The evolving external landscape, driven by technological advancements, international relations dynamics, cultural shifts, and economic factors, prompts reformation in public organizations to enhance community trust (Toonen, 2021). Indonesia has initiated bureaucratic reforms to elevate governance standards and foster national development (Ministry of Administrative and Bureaucratic Reform, 2023b). This involves restructuring organizations into two tiers, aligning structural positions with functional roles, and adjusting to dynamic service delivery systems (Ministry of Administrative and Bureaucratic Reform, 2022).

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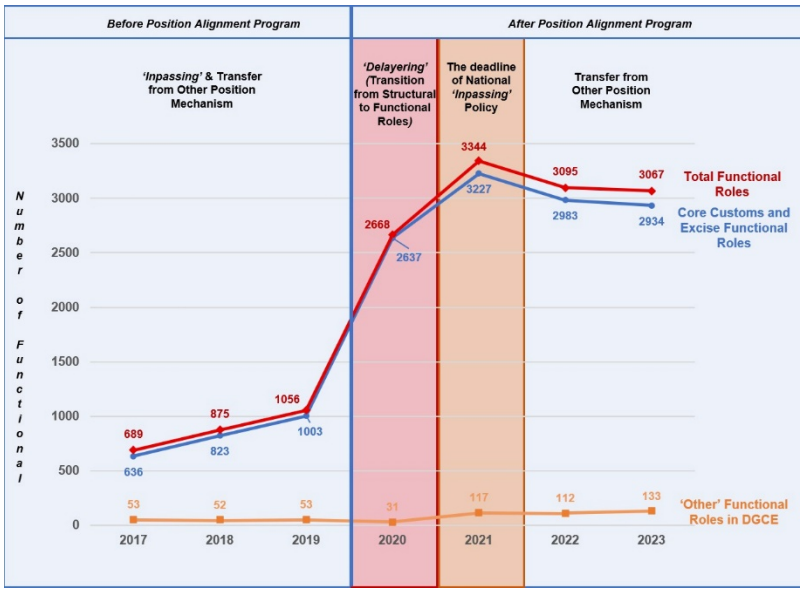
The Ministry of Finance, overseeing state finances, actively implements bureaucratic reforms, notably within the Directorate General of Customs and Excise (DGCE). This involves substantial simplification policies, aligning 1,840 structural positions with functional roles in DGCE (Directorate General of Customs and Excise, 2020). Functional roles prioritize specific expertise, technical skills, and professionalism (Ministry of Administrative and Bureaucratic Reform, 2023a). According to the Republic of Indonesia Government Regulation No. 11 of 2017 on Civil Servant Management, as amended by the Republic of Indonesia Government Regulation No. 17 of 2020 concerning Amendments to Government Regulation No. 11 of 2017 on Civil Servant Management, a position qualifies as functional if it meets the following specific criteria: (1) relevance to the agency's duties, (2) requiring certified skills or expertise, (3) fitting within a structured career path based on difficulty and competency, and (4) autonomously executing professional duties. These criteria align theoretically with Drucker's (1999) Characterization of Knowledge Workers, who leverage knowledge, personal wisdom, and technology to tackle complex work challenges and achieve the desired job quality.

Recent data shows that the position alignment program initiated in 2019 led to a 191% cumulated increase in functional officers, rising from 1,056 in 2019 to 3,067 by the end of 2023 (Secretariat of the Directorate General Customs and Excise, 2023) Functional officers comprise 19% of DGCE's total workforce of 16,021 employees, and this number is expected to grow further as regulations develop.



(Source: Secretariat of the DGCE (2023))

Figure 1. The Development of Functional Officers in DGCE

An issue emerged with the increase in functional officers at DGCE. Despite their growing strategic role, productivity and performance have not improved at the individual or organizational level (Secretariat General of the Ministry of Finance, 2023). Perceptions of the bureaucracy simplification policy worsened, with a 17.4% decrease in positive views and a 7.2% rise in negative ones. Indicators like speed, productivity, and output quality remained stagnant, revealing the policy's failure to meet bureaucratic reform goals. A specialized human resource management approach is needed to optimize functional officers as knowledge workers (Pihl-Thingvad, 2014).

A holistic management approach is crucial to addressing hidden factors affecting productivity across diverse organizational contexts (Óskarsdóttir et al., 2022). Óskarsdóttir et al. (2022) developed a framework considering internal and external factors using the Soft

System Methodology. This research expands on these findings, combining external and internal factors influencing the productivity of functional officers as knowledge workers. It builds on previous research by empirically testing the hypothesis that idiosyncratic job design practices (an external factor) in job definition, autonomy, innovation, and lifelong learning positively impact personal knowledge management (an internal factor), enhancing productivity among knowledge workers.

DGCE was chosen for this research because of its role as an echelon I unit in the Ministry of Finance undergoing the most extensive bureaucratic simplification program. DGCE is also looking for effective ways to manage functional officers to increase their productivity as knowledge workers while improving public services. Based on these considerations, the research questions in this study were formulated as follows: [1] Does personal knowledge management positively affect the productivity of functional officers as knowledge workers? [2] Does job definition positively affect personal knowledge management? [3] Does job autonomy positively affect personal knowledge management? [4] Does innovation as a job requirement positively affect personal knowledge management? [5] Does a lifelong learning orientation positively affect personal knowledge management?

B. LITERATURE REVIEW

As knowledge workers become increasingly prominent in the job market, there is a growing need to boost their productivity as a key driver of future economic prosperity (Drucker, 1999). Drucker (1999) emphasized the pivotal shift in measuring knowledge workers' productivity, moving from output quantity and efficiency to output quality and effectiveness. This shift is driven by six productivity drivers: clear task definition, autonomy in work, continuous innovation, ongoing learning and teaching, attention to the quantity and quality of work, and recognition as an intellectual asset rather than a cost. Shujahat et al. (2020) suggested that the effectiveness of personal knowledge management, influenced by idiosyncratic job design, can enhance the productivity of knowledge workers. While building variables reflecting idiosyncratic job design, Shujahat et al. (2020) also drew six productivity drivers for knowledge workers from Drucker (1999). However, their study included only four out of the six drivers identified by Drucker (1999): job definition, job autonomy, innovation as a job requirement, and lifelong learning orientation, considering that they have been widely recognized in the literature and easily categorized into a broader theme related to idiosyncratic job design.

Knowledge Workers Productivity

Issahaka and Lines (2021) identified two approaches to defining knowledge workers. The first, the 'job content' perspective, focuses on professional roles with specific job descriptions and attitudes, including consultants, managers, scientists, and financial analysts. The second, the 'worker personality traits' approach, defines knowledge workers by their characteristics, values, and behaviors, emphasizing competencies, professional skills, and education as key factors for motivation and self-actualization.

The distinction between knowledge and traditional workers leads organizations to adjust HR management and productivity criteria (Drucker, 1999). While traditional workers focus on output quantity, knowledge workers prioritize output quality. Drucker's (1999) six productivity drivers have influenced studies on factors like self-leadership (Bäcklander et al., 2019), satisfaction with job characteristics, intellectual capital including human quality capital, social capital, and organizational capital (Kengatharan, 2019), trust-driven knowledge sharing (Ling et al., 2020), knowledge-based organizational dynamic capabilities moderated by organizational culture (Khaksar et al., 2020) and personal knowledge management (Shujahat et al., 2020).

Personal Knowledge Management

Knowledge management involves planning, executing, and evaluating strategies to ensure that knowledge is effectively distributed, reaching the right people at the right time and place to achieve established goals (Kianto et al., 2019). Personal knowledge management is a bottom-up approach to knowledge management decentralized to individual knowledge workers, aiming to enhance their productivity and effectiveness, accumulating knowledge as part of the organizational knowledge management ecosystem (Shujahat et al., 2020). Therefore, personal knowledge management can be described as a systematic knowledge flow process by knowledge workers to acquire, independently, or collaboratively create, store, share, and use knowledge to enhance personal productivity (Shujahat et al., 2020).

Idiosyncratic job design

Idiosyncratic agreements involving negotiations on job roles, career development, flexible work arrangements, and financial incentives have been proposed to accommodate individual needs (Katou et al., 2020). As defined by Oldham and Fried (2016), job design refers to employees' daily tasks and, when well-structured, can meet expectations and motivate through personalized knowledge use. Unlike traditional top-down or bottom-up approaches, idiosyncratic job design fosters mutually beneficial, personalized roles, enhancing motivation but requiring careful cost-benefit analysis (Hornung et al., 2010; Katou et al., 2020). This study adopts idiosyncratic job design by incorporating Drucker's (1999) productivity drivers—job definition, autonomy, innovation, and lifelong learning (Shujahat et al., 2020).

The Relationship between Personal Knowledge Management and Knowledge Worker Productivity

Given the volatile, frequently changing, complex, dynamic, and unstructured nature of their work, knowledge workers require the ability to create and utilize knowledge (Drucker, 1999). Knowledge creation and utilization are vital components of the knowledge management process, in addition to knowledge sharing (Kianto et al., 2019). Effective personal knowledge management, formed through the active interaction of knowledge workers with knowledge, is crucial for productivity (Butt et al., 2018). Consistent with Shujahat et al. (2020), who argued that personal knowledge management is crucial to knowledge worker productivity; the first hypothesis is formulated as follows.

H1: Personal Knowledge Management has a positive effect on knowledge worker productivity

The Relationship between Job Definition and Personal Knowledge Management

Accurately defining job roles is essential for knowledge workers to accomplish their tasks effectively (Drucker, 1999). Job definition is defined as the ability of knowledge workers to determine job roles accurately and efficiently (job clarity), as well as to select tasks relevant to objectives (job crafting) (Shujahat et al., 2020). In public organizations, job clarity is key to knowledge-sharing and collaboration activities to meet public expectations (Gil-garcia et al., 2019). Furthermore, job crafting can foster a more positive organizational climate, as indicated by the knowledge sharing culture (Loghmani et al., 2021). Shujahat et al. (2020) presented three aspects as the basis for their hypotheses. First, perceptions of role clarity and job autonomy were positively related to knowledge sharing. Second, job definitions encourage the identification of barriers and knowledge needs. Third, job autonomy provides new challenges, thus enabling a greater focus on identifying knowledge needs. Thus, we formulate the second hypothesis as follows.

H2: Job Definition has a positive effect on Personal Knowledge Management

The Relationship between Job Autonomy and Personal Knowledge Management

Autonomy in determining work outputs and the responsibility of knowledge workers towards those outputs balance the challenges in the job definition (Drucker, 1999; Shujahat et al., 2020). Empowering workers through job autonomy can enhance job satisfaction and happiness and increase loyalty, which can trigger productivity (Khaksar et al., 2020; Jones, 2021). However, granting job autonomy also needs to be done judiciously, as its outcomes can be contradictory to knowledge sharing or knowledge creation if not adequately supported by the environment (e.g., supervisor support), as it may lead to feelings of alienation among workers (Buch et al., 2014; J. H. Song et al., 2012). Based on the self-determination theory, knowledge workers with job autonomy tend to exhibit knowledge-sharing behaviors, high motivation, and creativity, thus enhancing personal knowledge management more effectively (Shujahat et al., 2020). Therefore, we formulate the third hypothesis as follows.

H3: Job Autonomy has a positive effect on Personal Knowledge Management

The Relationship between Innovation as a job requirement and Personal Knowledge Management

The complexity of job challenges demands that knowledge workers continuously innovate as part of their tasks and responsibilities (Drucker, 1999). Organizations must be capable of managing the factors that precede innovation, especially in the public sector (Vries et al., 2016). Therefore, job designs requiring high levels of innovation will encourage knowledge workers to exhibit high creativity and innovative behavior (Audenaert et al., 2017). Innovation drives the process of personal knowledge management from knowledge acquisition, creation, and sharing to utilization (Shujahat et al., 2020). Thus, the fourth hypothesis was formulated as follows.

H4: Innovation as a job requirement has a positive effect on Personal Knowledge Management

The Relationship between Lifelong Learning Orientation and Personal Knowledge Management

A job's dynamic and complex nature requires knowledge workers to learn and teach continually (Drucker, 1999). This internal factor ensures that knowledge workers remain relevant to external demand and development (McLaughlin & Stankosky, 2010). Meanwhile, lifelong learning motivation influences knowledge-sharing attitudes (Kim & Lee, 2013; Ro et al., 2020). However, Song et al. (2023) stated that we must be cautious, as the relationship between lifelong learning orientation and knowledge-sharing activities follows an inverted U-shaped curve. This implies that, at a certain point, reinforcing lifelong learning orientation may be inversely related to knowledge sharing. Shujahat et al. (2020) further added that knowledge-sharing behavior could drive another knowledge process, knowledge creation, which materializes through the active engagement of knowledge workers. Thus, the fifth hypothesis was formulated as follows.

H5: Lifelong Learning Orientation has a positive effect on Personal Knowledge Management

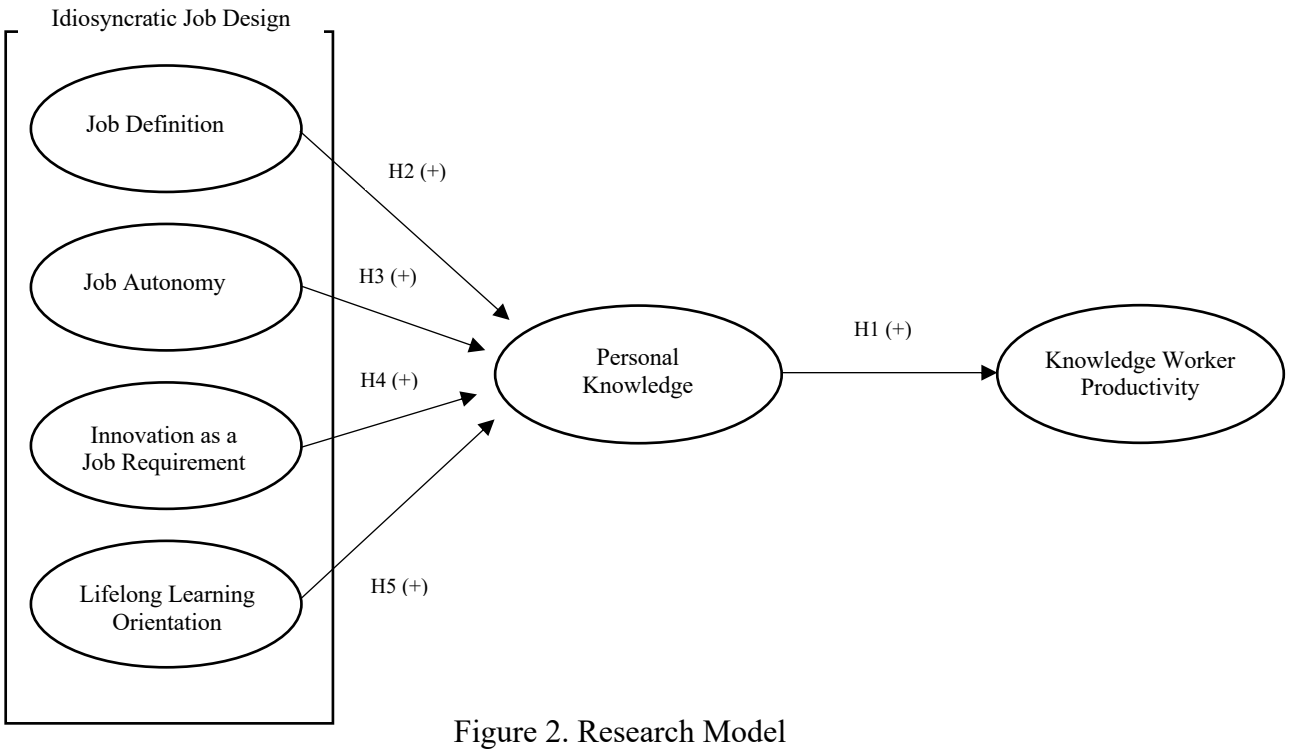


Figure 2. Research Model

C. METHOD

This study employed a quantitative approach, utilizing online surveys to collect data. The unit of analysis was individuals, with cross-sectional data collected at one time to represent respondents' responses to the survey. The questionnaire was designed to ensure completeness with mandatory responses for each item. The questionnaire was first developed in English and later translated into Indonesian. The study population comprised all functional officers in the DGCE, and purposive sampling was used to measure non-probability. Sample criteria required a Bachelor's degree and a minimum of two years of tenure as a functional officer.

This study divided the analysis into two major stages: descriptive and data analysis using Structural Equation Modeling (SEM). Hair et al. (2019) stated that SEM allows researchers to explain the relationships between multiple variables using factor and multiple regression analyses with the general rule of a minimum sample size of 100, ensuring reliable and trustworthy results. In factor analysis, indicators of a construct work together to determine that construct, whereas in multiple regression analysis, constructs are interrelated in correlational or dependency relationships. This study conducted a measurement model analysis (outer model) to test the validity and reliability of the research instrument, followed by a structural model analysis (inner model) to determine the relationships between latent variables and hypothesis testing.

Measurement

This study employed a Likert scale ranging from 1 to 5, with one interpreted as "strongly disagree" and five as "strongly agree." All the variables and their indicators were tested for validity and reliability. The instruments used in this study were adapted from Shujahat et al. (2020). Six statements were used to measure knowledge worker productivity (α=0,911). Eleven statements were initially used to measure personal knowledge management (α=0.879). However, three items (items 2, 3, and 4) were removed during the convergent validity test due to outer loadings below 0.7. Additionally, two items (6 and 7) were removed during the

discriminant validity test due to high correlations with another variable. Six statements were used to measure job definition (α=0.853), and six items assessed job autonomy (α=0.876). Five statements evaluated innovation as a job requirement (α=0.924), and four items gauged lifelong learning orientation (α= 0.857).

Table 1. Questionnaire

Construct	Code	Items
Knowledge Worker Productivity	KWP1	I am satisfied with the results of my work.
	KWP2	I can carry out my work tasks efficiently (smoothly, without problems).
	KWP3	I can use most of my work time to perform tasks relevant to my goals.
	KWP4	I can meet the expectations of the people I serve (e.g., clients and/or supervisors).
	KWP5	The quality of my work results is high.
	KWP6	My work mainly involves tasks that allow me to utilize my knowledge and skills efficiently.
Personal Knowledge Management	PKM1	I acquire the necessary knowledge by referring to my organization's internal documents (such as SOPs and relevant regulations).
	PKM2	I acquire the knowledge that I need by attending training sessions
	PKM3	I acquire the necessary knowledge by asking my colleagues and/or supervisor(s).
	PKM4	I record working knowledge in written form (e.g., SOPs) and/or computer/information systems.
	PKM5	I frequently update my job-related knowledge for future use.
	PKM6	I use knowledge to solve work-related problems.
	PKM7	I use knowledge to meet the needs of the parties I serve (e.g., clients, supervisors, and colleagues).
	PKM8	When colleagues encounter problems, I strive to provide them with the necessary responses, information, documents, or techniques.
	PKM9	I transfer my knowledge and experience to others.
	PKM10	I learn and create knowledge about my work through interactions with colleagues and others.
	PKM11	I create knowledge about my work by connecting new knowledge/experiences with past knowledge/experiences.
Job Definition	JD1	I usually understand what I need to do in my job.
	JD2	I can usually anticipate what is expected of me in my work by the parties I serve (e.g., clients, colleagues, and superiors).
	JD3	I know exactly which areas are my responsibilities and which are not.
	JD4	I often think about what should or should not be in my job.
	JD5	I know what factors slow down my work.
	JD6	I often think about eliminating factors that slow down my work.
Job Autonomy	JA1	I can modify the tasks I perform.
	JA2	I am allowed to modify procedures when completing my work.
	JA3	I am allowed to choose methods to complete my work.
	JA4	I am allowed to select procedures when carrying out my work.
	JA5	I have control over my work scheduling.
	JA6	I have control over the sequence of my work activities.
Innovation as Job Requirements	IJR1	I am required to be innovative in my work.
	IJR2	My job encourages me to try new approaches to problem-solving.
	IJR3	Suggesting new ideas is part of my job duties.
	IJR4	Introducing new ideas into my work activities is part of my job.
	IJR5	My job tasks include seeking new methods and techniques to complete tasks.
	LLO1	I discuss new things I have learned with my colleagues.

Lifelong Learning Orientation	LLO2	I continuously learn new things.
	LLO3	I try to relate new learning (knowledge/experiences) to practical issues at work.
	LLO4	When encountering new material, I strive to connect it with what I already know.

Source: Adopted from Shujahat et al. (2020).

D. RESULT AND DISCUSSION

Respondents Demographics

A total of 298 responses were successfully collected. However, data meeting the predetermined criteria for further analysis included 249 respondents (83.6%). Most respondents were male (90%), aged between 31 and 40 years (52.6%), held a Bachelor's/Diploma-IV degree (75.9%), worked in the Customs and Excise Controlling and Servicing Office (78.3%), occupied roles as customs and excise inspectors (86.7%), had 2-4 years of tenure (88%), and were primarily involved in customs and excise document research (67.9%).

Table 2. Demographics Characteristics (N=249)

Items		Frequency	Percentage
Gender	Male	224	90%
	Female	25	10%
Age	21-30	7	2.8%
	31-40	131	52.6%
	41-50	97	39%
	51-60	14	5.6%
Education	Bachelor's /Diploma-IV Degree	189	75.9%
	Master's degree	58	23.3%
	Doctoral Degree	2	0.8%
Work Unit Typology	Customs and Excise Controlling and Servicing Office	195	78.3%
	Customs and Excise Regional Office	11	4.4%
	Customs and Excise Major Servicing Office	28	11.2%
	Customs and Excise Headquarters	15	6%
Functional Position Type	Customs and Excise Inspector	216	86.7%
	Assistant Customs and Excise Inspector	23	9.2%
	Others	10	4%
Functional Position Tenure	2-4 years	219	88%
	Over 4 years	30	12%
Primary Customs and Excise Task Field	Document Research	163	67.9%
	Policy Analysis and Evaluation	4	1.6%
	Licensing Analysis, Facilitation, Revenue Projection	15	6%
	Audit	8	3.2%
	Research Objections and Appeals	6	2.4%
	Service and Information Management	3	1.2%
	Patrols, Intelligence, Enforcement, Investigations	30	12%
	Goods, Body, and Transport Inspection	7	2.8%
	Others	7	2.8%

Source: Primary Data Analysis (2023)

Descriptive Analysis

The results of the descriptive analysis from the questionnaire indicate a pattern of data distribution for each latent variable. The productivity of the knowledge worker variable has an average of 4.42, with the highest indicator being KWP4 ("*I can meet the expectations of stakeholders*"), reaching an average score of 4.50. The lowest score is "*I can use most of my work time to perform tasks relevant to my goals*" (KWP3), with an average score of 4.35; 8.4 % of respondents provided strongly disagree-neutral responses to KWP3.

The variable of personal knowledge management has an average of 4.50, with the two highest indicators being PKM1 ("*I acquire the knowledge I need by referring to internal documents*") and PKM 8 ("*When colleagues encounter problems, I strive to provide them with the necessary responses, information, documents, and techniques*"), both with an average score of 4.58. The lowest score is for the statement "*I document job-related knowledge in written form*" (PKM4), with an average score of 4.29; 12% of the respondents gave strongly disagree-neutral responses to PKM4.

The variable of job definition has an average of 4.38, with the highest indicator being JD3 ("*I know exactly which areas are my responsibilities and which are not*"), with an average score of 4.53. The lowest score is "*I often think about what should or should not be part of my job*" (JD4), with an average score of 4.09; 22.9% of respondents provided strongly disagree-neutral responses to JD4.

The variable of job autonomy has an average of 3.98, with the highest indicator being JA6 ("*I have control over the sequence of my work activities*"), with an average score of 4.26. The lowest score is for the statement "*I am allowed to change procedures in completing my work*" (JA2), with an average score of 3.49; 44.2% of respondents indicated strongly disagree-neutral responses to JA4.

The innovation variable as a job requirement has an average of 4.12, with the highest indicator being IJR1 ("*I need to be innovative to meet the requirements of my job*"), with an average score of 4.40. The lowest score is for the statement "*My job tasks involve searching for new methods and techniques in completing work*" (IJR5), with an average score of 3.87; 33.3% of all respondents gave strongly disagree-neutral responses to IJR5.

The variable of lifelong learning orientation has an average of 4.44, with the highest indicator being LLO4 ("*When I acquire new material, I try to connect it with what I already know*"), with an average score of 4.50. The lowest score is for the statement "*I continuously learn new things*" (LLO2), with an average score of 4.40; 8% of all respondents gave strongly disagree-neutral responses to LLO2.

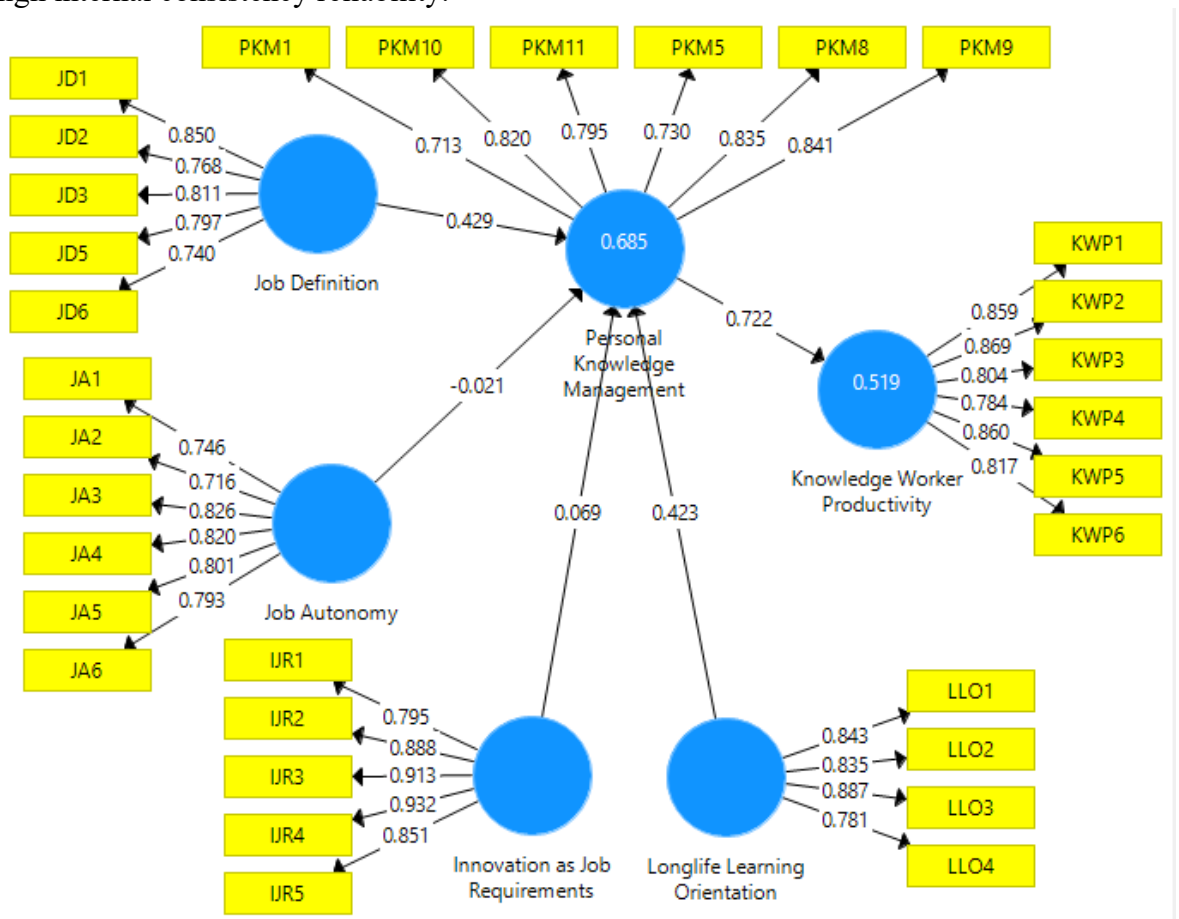
Measurement Model Evaluation

Convergent validity, discriminant validity, and reliability tests were conducted on the measurement items used in the study. Convergent validity was examined based on factor loading values greater than 0.7 and Average Variance Extracted (AVE) values exceeding 0.5 (Hair et al., 2019). Four indicators were identified with factor loading below 0.7: PKM2 (0.639), PKM3 (0.577), PKM4 (0.662), and JD4 (0.576); consequently, these indicators were excluded from the analysis. The AVE values of the variables in this study were all greater than 0.5 (ranging from 0.616 to 0.769), confirming the validity of the indicators.

Discriminant validity was tested using the Fornell-Larcker Criterion, which requires that the square root of the AVE be greater than the correlation between variables, the Heterotrait Monotrait Ratio (HTMT) remain below 0.9, and cross-loading values indicate that the loading value between an indicator and its latent variable must be higher than that between the indicator and other latent variables. According to the results of the Fornell-Larcker Criterion, the square root of the AVE for PKM (0.796) was smaller than the correlation value between this variable

and the LLO variable (0.809). This issue arose because two indicators in PKM, specifically PKM6 and PKM7, exhibited a high correlation with indicators in the LLO variable, necessitating their removal. After their removal, reanalysis indicated that the Fornell-Larcker Criterion, HTMT, and cross-loading values met the required standards, thereby validating the indicators.

Next, internal consistency reliability was tested by examining Cronbach's Alpha and Composite Reliability values. The reference values for Cronbach's Alpha and Composite Reliability are typically greater than 0.7 (Hair et al., 2019). Cronbach's alpha scores ranged from 0.853 to 0.924, and Composite Reliability scores ranged from 0.895 to 0.943, indicating high internal consistency reliability.



(Source: Result of primary data processing with SmartPLS (2023))

Figure 3. The Result of Structural Model Evaluation with the value of factor loadings, R Square, and path coefficients

Structural Model Evaluation and Analysis of Hypothesis Result

A structural model analysis was conducted after all indicators were declared valid and reliable. The final structural model was presented as the output of the SmartPLS program, as shown in Figure 3. The structural model was evaluated by testing for collinearity and examining the adjusted R-square level, f-square effect size, and predictive relevance Q-Square values, following the guidelines outlined in Table 3 (Hair et al., 2017, 2019).

Table 3. Structural Model Measurement with Values of R2, F2, Q2 and Inner VIF

R Square	**Endogenous Variables**	**R Square**	**R Square Adjusted**	Reference Value (Hair et al., 2017, 2019)
	PKM	0.690	0.685	>50%
	KWP	0.521	0.519	
Effect Size (F-Square)	**Exogenous Variables**	**PKM**	**KWP**	0.35: Considerable; 0.15: Moderate; 0.02 Weak
	JD	0.258		
	JA	0.001		
	IJR	0.007		
	LLO	0.212		
	PKM		1.088	
Collinearity (Inner VIF)	**Exogenous Variables**	**PKM**	**KWP**	<5
	JD	2.310		
	JA	1.846		
	IJR	2.383		
	LLO	2.725		
Predictive Relevance (Q Square)	PKM	1.000		>0.25
	Endogenous Variables	**Q Square**		
	PKM	0.421		
	KWP	0.352		

Source: Primary Data Analysis using SmartPLS (2023)

The test results indicated that all inner VIF values were below 3, indicating no collinearity. The adjusted R-squared values for personal knowledge management and knowledge worker productivity were above 50% (68.5% and 51.9%, respectively). The f-square effect size test results showed a strong effect between personal knowledge management and knowledge worker productivity (1.088) and moderate effects between job definition and personal knowledge management (0.258), as well as lifelong learning orientation and personal knowledge management (0.212). However, there was no significant effect between innovation as a job requirement and job autonomy with personal knowledge management. The predictive relevance of Q-Square for personal knowledge management and Knowledge Worker Productivity is above 0.25 (0.421 and 0.352, respectively). Referring to the hypothesis testing results, based on the criterion of t statistics greater than 1.96 or p-value less than 0.05, three hypotheses are supported: H1, H2, and H5, while two hypotheses are not supported: H3 and H4. The detailed values of the t-statistics, significance level (p-value), and path coefficient (β) for each hypothesis are presented in Table 4.

Table 4. Hypothesis Testing Results

Hypothesis	*Path Coeff.*	*T-Stats*	*P-values*	Result
H1:PKM→KWP	0.722	21.800	0.000*	Supported
H2:JD→PKM	0.429	6.054	0.000*	Supported
H3:JA→PKM	-0.021	0.421	0.674	Not Supported
H4:IJR→PKM	0.069	1.052	0.293	Not Supported
H5:LLO→PKM	0.423	5.405	0.000*	Supported

Note: PKM=Personal Knowledge Management; KWP=Knowledge Worker Productivity; JD=Job Definition; JA=Job Autonomy; IJR=Innovation as Job Requirements; LLO=Lifelong Learning Orientation
Source: Primary Data Processed with SmartPLS (2023)

Discussion

Personal Knowledge Management Positively Affects the Productivity of Knowledge Workers

The proactive involvement of knowledge workers in personal knowledge management activities, such as the acquisition, storage, utilization, creation, and sharing of knowledge, plays a crucial role in supporting their productivity by affecting the success of handling dynamic, complex, and challenging tasks (Drucker, 1999; Butt et al., 2018; Shujahat et al., 2020). Functional officials rely on Standard Operating Procedures (SOPs) and internal regulations related to customs and excise duties as their primary source of knowledge acquisition to accomplish their tasks because the DGCE has the characteristics of a people-processing type of public organization focused on rule enforcement and law (Borst, 2018). Moreover, the ingrained sense of camaraderie among customs and excise members also fosters a culture of mutual assistance reflected in the willingness of all organizational members to engage in knowledge-sharing activities to ensure the successful completion of complex tasks. This is reflected in the 2022 DGCE organizational culture survey evaluation, where the indicator of 'employee camaraderie/cooperation' indicates a score of 9.37 on a scale of 10 (DGCE, 2023). However, functional officials need to enhance their written documentation of knowledge to prevent an organization's loss of knowledge.

Job Definition Positively Affects Personal Knowledge Management

Functional officials within the DGCE environment demonstrate a comprehensive understanding of the duties, obstacles, and responsibilities associated with their work. Knowledge workers are likely to have a more effective ability to manage knowledge if they succeed in defining their jobs through job clarity and job crafting, thereby facilitating the process of identifying the knowledge, skills, and competencies needed. The organization's success in ensuring role clarity and authority for its employees (including functional officers) can strengthen the 'competent' value within the ASN BerAKHLAK organizational culture. ASN BerAKHLAK is a value-driven framework established by the Indonesian government to enhance its civil servants' professionalism and ethical standards. This is reflected in the high levels of Sharing Knowledge behavior within the Ministry of Finance, rated as "healthy" in the ASN work culture survey (Ministry of Finance, 2023). This can enhance motivation, encourage proactive attitudes, and promote knowledge-sharing behaviors (Drucker, 1999; Shujahat et al., 2020).

Job Autonomy does not Affect PERSONAL Knowledge Management

These research findings contradict the initial hypotheses of the study. The results indicated that providing job autonomy may decrease the productivity of knowledge workers, although not significantly. According to Buch et al. (2014), job autonomy can have a negative impact if not accompanied by adequate environmental support, such as supervisors, as it may lead to feelings of alienation among workers. Collaboration orientation at the team/department level has a more significant positive effect on enhancing creativity in knowledge creation than individual-level job autonomy (Song et al., 2012).

Additionally, the organizational situation at DGCE experiencing upheaval due to policy changes, such as hierarchical level reduction, also affects job autonomy because it hinders knowledge transfer and productivity (Maggi-da-silva et al., 2022). Another possible contributing factor is the DGCE's characteristics as a people-processing organization, which emphasizes compliance with standard operating procedures (SOPs) and internal regulations, greatly influencing functional officials' perception to adhere strictly to the applicable procedures. Hence, granting autonomy may conflict with functional officials' identities and

duties. Therefore, it is necessary to redefine autonomy by considering autonomy regarding work outcomes and accountability rather than just autonomy in work procedures (Drucker, 1999; Shujahat et al., 2020).

Innovation as a Job Requirement does not Affect Personal Knowledge Management

This study employs statement items for innovation as a job requirement variable at the individual level, where functional officials in the DGCE context must incorporate innovation into their duties. However, self-awareness alone regarding the importance of innovation does not significantly impact personal knowledge management. The need for innovation is likely influenced by other factors/antecedents in the public sector at DGCE that still require improvement. Referring to the levels defined by Vries et al. (2016), the analysis can be as follows: (1) At the environmental level, there are no derivative rules related to innovation at the DGCE level and its linkage to the performance of functional officials; (2) At the organizational level, there is no incentive to provide specific resources to encourage innovation, the leadership character of immediate superiors needs improvement, and the reward system requires improvement; (3) At the innovation characteristic level, the mechanisms for adopting innovation remain unclear.

Lifelong Learning Orientation Positively Affects Personal Knowledge Management.

Lifelong Learning Orientation leads to continuous and consistent knowledge acquisition in the long term, enhancing knowledge workers' intrinsic motivation to share knowledge (Kim & Lee, 2013). This learning orientation also increases the potential to remain relevant to external challenges and helps to solve increasingly complex and dynamic work issues (McLaughlin & Stankosky, 2010; Shujahat et al., 2020).

E. CONCLUSION

The findings reveal that personal knowledge management positively impacts knowledge worker productivity. Among the four selected dimensions of idiosyncratic job design, only job definition and lifelong learning orientation positively influence personal knowledge management; job autonomy and innovation as a job requirement do not affect personal knowledge management. These findings add valuable insights, suggesting that not all aspects of idiosyncratic job design based on Drucker's theory contribute to enhanced personal knowledge management and employee productivity. Instead, only the Job Design (JD) and Lifelong Learning Orientation (LLO) dimensions were found to have a significant impact and, therefore, should be the primary focus in managing functional officers as knowledge workers.

These findings also have practical implications for organizations to reformulate the definition of functional official productivity strategically to act as a catalyst to support organizational performance. Organizations need to provide support to create an organizational climate conducive to knowledge workers' knowledge management, such as implementing comprehensive and holistic strategic human resource management, fostering a learning culture within the organization through formal and informal approaches, and strengthening the role of immediate supervisors as bridges between organizational needs and functional officials.

Furthermore, public organizations, particularly those of the people-processing type, such as DGCE, need to ensure clarity in job scope and authority for functional officials through clear, concise, and unambiguous SOPs and internal regulations. This will avoid perception errors at the execution/operational level, supported by leadership commitment.

To accommodate a lifelong learning orientation, organizations must establish policies, programs, mechanisms, and platforms to facilitate creating, integrating, accessing, and sharing knowledge and experiences.

Limitations and Future Research

Future research should broaden the context and setting of the study to enrich the findings and consider allowing for open-ended statements in the questionnaire. In addition, comparing productivity perceptions with objective matrices should be considered to obtain more comprehensive and holistic research results. Furthermore, future research could consider breaking down personal knowledge management into specific dimensions, thus capturing the dimensions most positively influenced by idiosyncratic job design practices and those that most impact knowledge worker productivity.

Contributorship

The first author is responsible for conceptualizing, collecting data, analyzing data, and writing and revising articles. The second author provides general directions for reviewing and proofreading articles.

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