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Knowledge Management in the Public Sector: The Spilling Effects on Employee Performance Using the SECI Model

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Abstract

This research aims to explore the impact of knowledge management on performance, essentially through employee engagement, succession planning and leadership development, using the SECI model developed by Nonaka and Takeuchi, 1996 (Forst, 2012). The research uses a case study approach by examining the Public Sector of the Virgin Islands. We draw upon two survey instruments to analyse the variables in our model: Knowledge Management Assessment Instrument (KMAI) and Gallup Workplace Audit (GWA). Our results revealed that knowledge sharing enhances employee engagement, leadership development and succession planning. These findings could assist the public sector to understand the dynamics of knowledge management which can help increase employee engagement and the development of leadership.

Keywords: Knowledge Management, performance, leadership development, employee engagement, succession planning, SECI model

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Introduction

Modern business organizations are intuitive, have a flat structure (Child, 2005), and sustain knowledge flows (Yusof and Ismail, 2010). By contrast, governmental structure is often characterized by its rigidity and inefficient knowledge flows (Dierkes, et al. 2003). Despite the organization structure and bureaucratic nature of the public sector, knowledge management is necessary to increase the competence of its workforce. One of the reasons for problems of knowledge management in the public sector may be attributable to cultural barriers. Lawson (2003) found that culture creates barriers for developing knowledge assets. Furthermore, knowledge management is sustained by the organizational context and the culture rooted within the organization (Dierkes, et al., 2003, Child, 2005 and Al-Bastaki and Shajera, 2014). These barriers are important to examine because they play down a significant knowledge created in the public sector by obfuscating its effective sharing. In doing so, knowledge enablers require careful consideration.

The research suggests that knowledge sharing directly impacts employee engagement and leadership development. Although the research was unable to confirm the direct relationship of knowledge sharing and succession planning, the leadership development variable was statistically related to succession planning. These findings support the close connection of the variables in our research. In practical terms, a good KM system will support key HRM practices and strengthen the system by encouraging knowledge sharing.

Literature review and conceptual model

Dixon (2010) noted that “knowledge management has evolved through three generations” (Dixon, 2010 in Al-Bastaki and Shajera, 2014 p. 2). The table below describes the three generations in the evolution of Knowledge Management research:

Table 1: Knowledge Management Evolution through Generations	
1 st Generation	<ul style="list-style-type: none">- Knowledge structures and technology (Al-Bastaki and Shajera, 2014 p. 2)- Difficulty to distinction between knowledge and information (Nonaka, Krogh and Voelpel, 2006) and (Al-Bastaki and Shajera, 2014)

2 nd Generation	- This generation "... involved sharing tacit knowledge among individuals" (Al-Bastaki and Shajera, 2014, p. 2).
3 rd Generation	- Finally, the third generation, according, to Al-Bastaki and Shajera (2014) was centered on the synergy that established through social networking and internal collaboration.

The present research focuses on the third generation phase, the social aspect of the organization, which is necessary to integrate the knowledge management principles such as, sharing knowledge.

In order to have an integrative perspective on the methods of measuring organizational knowledge, it is important to incorporate the principles by which knowledge occurs within the organizations. Our approach to understanding knowledge management is to examine its relationship to modern performance management which creates a cascade-effect by communicating the organization's vision, mission, goals, and objectives all the way through employee ranks (Aguinis, 2013). Our interest was in seeing how knowledge management impacts performance management strategies.

Also, the internal cascading principle of a performance management system facilitates communicates to employees' organizational expectations (Mone and London, 2010), and promotes employee commitment to the organizational goals (Aguinis, 2013). Flannery, Hofrichter and Platten (1996, p. 215) stated that performance measurement must aligned with- and be supported-by the organizational culture. These are interconnecting concepts which contribute to the viability of knowledge management implementation. Furthermore, the employee performance is a result of a constant interface between the tacit and explicit knowledge of the individual developed within the environment (Dierkes, et al., 2003).

Dierkes, et al. (2003, p. 795) refer to "knowledge [as] a source" which requires adequate management to ensure that the 'source' is relevant and cohesively aligned with the organizational objectives.

The social theory and the cognitive behaviourism perspectives contribute to the view that humans learn through their social interaction. Interactions provide a context influencing how they make sense and behave (Newman and Newman, 2003 p. 77). As such, the behaviour or performance of employees occurs and is shaped within a social context. The SECI model (socialization, externalization, combination and internalization) was developed by Nonaka and Takeuchi to elaborate on the mechanism to measure the source of knowledge within an

organization. The SECI model highlights the conversion of knowledge to become useful within the organizational context (Gorelick, Milton and April, 2004). Dierkes, et al. (2003, p. 830) refer to the environment or the organizational context as the 'ba,' which means the 'place'. The authors suggested that the 'ba' is the setting s, where employees can engage in sharing, creating and using knowledge. According to Dierkes, et al. (2003 p. 830) , knowledge is transmitted through this interaction of the employee and the environment and does not lie within only one individual. Also, the knowledge is converted from tacit to explicit and back, through the SECI spiral process, which exists within the 'ba' (Dierkes, et al., 2003 p830-833). Additionally, the 'ba' consists of the 'organizational culture,' which fosters the procedures and internal organizational dynamics. Therefore, the 'ba' is the place/environment, influencing the organizational culture and sustaining the processes by which succession planning, employee engagement and leadership development may be implemented.

In light of the foregoing, it is, we reason that organizational learning is not merely the knowledge that exists within the organization or with any particular individual. Rather, it is the end-result of the constant interaction and cycle of conversion of the internal knowledge of the individual and the organization (Newman and Newman, 2003; Browning and Boudes, 2005, Gorelick, Milton and April, 2004). Hence, there must be a conscious effort by management to direct the way organizational knowledge flows to ensure that knowledge is retained and does not leave when knowledgeable human capital departs the organization. Therefore, organizations must ensure that knowledge is retained and inventoried so that active employees can access knowledge when is needed.

Knowledge accessibility has dual purpose because it allows employees to be empowered and accountable for their performance. Through the employee empowerment principle, management signals the importance of employees engaging in the operational process and encouraging a sense of belonging to the organization. One of the six facets of employee engagement, according to Mone and London (2010, p. 4), is meaningfulness, which permits employees to understand the meaning of their contribution to the organization. Moreover, employee engagement helps employees to discover meaningfulness and an understanding of their role and necessary contribution to the organization. At the same time, the knowledge accessibility imposes accountability to employees since management will not only assign tasks, but also will provide the knowledge necessary to accomplish them. Therefore, the knowledge accessibility permits the employee performance and involvement can be evaluated.

Masa'deh, Maqableh and Karajeh (2014) found an interlinking element between knowledge management capacity, leadership development, firm performance and human resources

management (HRM) practices. They reasoned that these elements foster the knowledge flow and accessibility of resources within the organization.

As such, the overall aim of the research is to adopt a case study approach, to investigate a performance management system within the Public Sector of the Virgin Islands. By doing this, this study will gather relevant data to build the case study, and ascertain to what extent departments manage knowledge, and encourage the flow of knowledge. The three (looks like four not three) key areas by which the research questions the implemented system within the Public Sector are succession planning, knowledge sharing, employee engagement and leadership development.

Knowledge Management

There has been an increased emphasis on the value of human capital/intellectual assets/intangible assets. For example, Deloitte, the international accounting firm, highlighted in its strategic plan that ‘people’ (employee) comes first (Heldeborn, 2009). A repeated theme expressed by numerous scholars is that knowledge management strategies are vital for the materialization or the realization of the organizational objectives (Dierkes, et al. 2010) or the human capital (Pilbeam and Corbridge, 2010; Yoshimichi, 2011).

Wang, Chiang and Tung (2012) noted that it is through Human Resources Management (HRM) Strategies that knowledge can be validated within the organization. In other words, knowledge management focuses on both the tangible and intangible assets within the organization and as such, it requires individuals to materialize the knowledge through performance and making use of the tangible resources. The knowledge cannot exist on its own, rather it is materialized by the employee involvement in the everyday processes, procedures, and organization activities, and assisted by the use of technology (Wang, Chiang and Tung, 2012).

Gorelick, Milton and April (2004) used the Nonaka and Takeuchi’s SECI to illustrate the knowledge transfer process within and between tacit and explicit knowledge. Ramirez, Garcia and Martin (2011) also utilized the SECI principle to show the process of knowledge conversion within the organization. The authors concentrated their research on demonstrating that the SECI model is positively related to organizational learning (Ramirez, Garcia and Martin, 2011).

I. Socialization Stage

The socialization is the stage where tacit knowledge and tacit knowledge interact (Dierkes, et al. 2010). Sheckley, of the University of Connecticut, explained that the tacit knowledge ingrains into the individual experience and Clark and Elen (2006) contributed to the writings

of tacit knowledge by stating that 70% of most human knowledge is tacit knowledge (Sheckley) (Ali please rework this last sentence; not sure what you mean).

The socialization dimension within the SECI model focuses on the tacit to tacit knowledge, which can foster employees to share knowledge (Yoshimichi, 2011). The freedom of sharing knowledge permits the identification of errors and knowledge gaps. For example, if the organization encourages a culture where knowledge could be a dialogue, then it would assist the employees needing the information to increase their understanding of the organization, thereby reducing errors and bridging the knowledge gap. Therefore, the 'ba' should sustain a culture where socialization and the movement of knowledge flow within the organization (Yoshimichi, 2011).

II. Externalization Stage

The externalization model is where tacit to explicit knowledge is converted and where knowledge sharing can foster tacit knowledge to be materialized into tangible (missing word) (Song, Uhm and Yoon, 2011).

The SECI model suggests a spiral function, suggesting that knowledge is not static, and the development of trust must happen for employees to move from a constructive dialogue to implementation of procedures (Song, Uhm and Yoon, 2011).

III. Combination Stage

The combination stage is where the tacit and explicit knowledge interacts, and the knowledge becomes available to others. Dierkes, et al. (2012) mentioned that the combination stage connects the explicit knowledge from sources to develop new or newly systemized knowledge (Dierkes, et al., 2012, p832).

IV. Internalization Stage

Figure 1 illustrates that the internalization stage is where the transformation of the explicit knowledge to tacit knowledge occurs and then, converts back to explicit knowledge (Hildreth and Kimble, 2002). As such, the individual would perform and conform in accordance with the organizational knowledge that already exists.

SECI Model

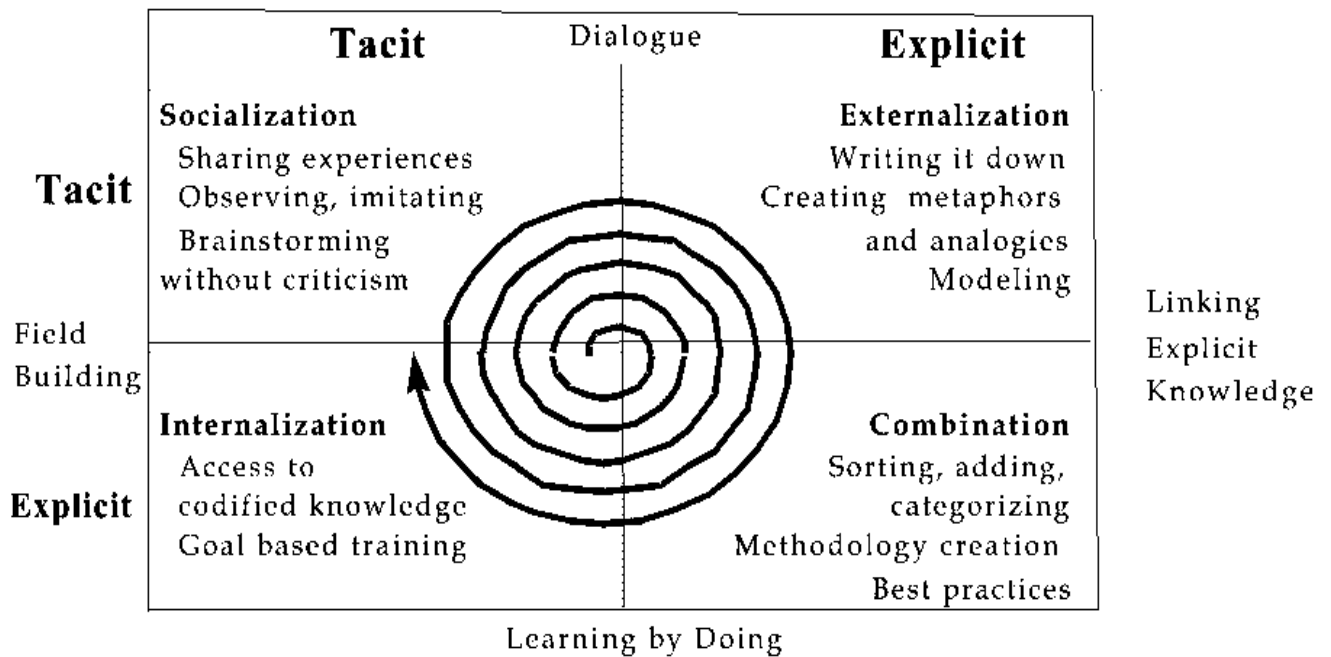


Figure 1: Nonaka's spiral of knowledge (Hildreth and Kimble, 2002, pp. 5)

Though Nonaka et al.'s SECI models can be viewed primarily as a knowledge creation model, there are variables within the model that make it an equally knowledge sharing model. As argued earlier, the four quadrants exemplify frameworks for converting knowledge which are at the socialization stage - tacit to tacit, at the externalization stage - tacit to explicit, at the combination - explicit to explicit, at the internalization stage - explicit to tacit. We argue that these various stages involve exchange, collaboration and dissemination. The socialization stage exemplifies our perspective quite well and point to the fact that Nonaka et al.'s model was not seeking to merely excavate a terrain where knowledge is produced for the sake of producing knowledge but make a case for knowledge transfer through learning, unlearning and relearning. This line of argument is reinforced by Nonaka's use of the term *Ba*, a term in Japanese philosophy referring to the context in which knowledge is shared (Bratianu, 2017).

Definition of Knowledge Management

According to Lawson (2003), the knowledge management is "a process that helps the organization find, select, organize, disseminate, and transfer important information and expertise necessary for activities such as problem-solving, dynamic learning, strategic planning

and decision-making.” The knowledge management is the ability of the organization to disseminate the information when is required and to who is needing the information to assist in the knowledge sharing, creation and sound decision making (Holm, 2001 in Kanagasabapathy, Radhakrishnan and Balasubramanian, 2006). These two definitions establish the working ground of this research study. Centrally, the knowledge management established within the organizational context that permits the fluidity and accessibility of knowledge. (it is not clear why you offer two definitions which are both very similar. It is ok to pick one and say “for the purposes of this research, we define KM as....)

The authors (Kanagasabapathy, Radhakrishnan and Balasubramanian, 2006) highlighted various critical factors for knowledge management to exist within an organization, including employee involvement (engagement), employee training (leadership development and succession planning).

Succession Planning and Leadership Development

The succession planning of an organization can be considered as an essential [planning mechanism] for knowledge transfer and also to create the basis for knowledge accessibility and its sustainability. Nadler-Moodie and Croce, Jr. (2012) characterize the succession plan of an organization as a process whereby the management identifies the appropriate individuals to fill key posts. Hence, the succession planning involves the management understanding of the current human capital resources and forecasting to prepare for the future needs for those key positions. One of the processes of succession planning is knowledge sharing, which permits leaders to tap into their implicit knowledge, transferring knowledge to those key individuals (Peet, 2012). Furthermore, the succession planning process provides the vehicle for leadership to be developed and for those key individuals to assume leadership positions.

The succession plan of the organization can assist in identifying the information necessary to be passed on to the next [leadership] generation within the organization, establish a plan for knowledge transfer and assess knowledge gaps. “[Succession planning...] requires the collection and storage of key data which can be used to track performance and development of those staff and appropriate selection to be made at the time when a replacement is needed” (Pilbeam and Corbridge, 2010, 142). The authors consider succession planning as part of human resources strategy, relying specifically upon the human resources information system. Masa’deh, Maqableh and Karajeh (2014) conclude, through their research, that there is an interlinking element between knowledge management capacity, leadership development, firm performance and human resources management (HRM) practices, fostering the knowledge flow and accessibility of resources within the firm.

Employee Engagement

Knowledge accessibility has a dual utility in that it fosters employee empowerment and, at the same time, it produces accountability for employee performance. This accessibility empowers employees by increasing attachment to the organization and a sense of identity to the job. Based on one of the six facets of employee engagement, according to Mone and London (2010, p. 4), is meaningfulness, which permits employees to understand the meaning of their contribution to the organization. Hence, the employee engagement allows employees to tap into this meaningfulness by understanding their role and contribution to the organization.

Research Question

Figure 2 presents our research model. Each arrow identifies a directional hypothesis for the variables in this research. The hypotheses were tested using a hierarchical multiple regression analysis to identify the relationship between the main variables. To understand if other variables were influencing the relationship between main variables of the study, this study model included control variables such as job rank, promotions, training and education. Research studies such as Mahmoud and Reisel (2015), Lawson (2003) also used these control variables.

The essence of knowledge management is to establish practical techniques, which may facilitate knowledge sharing. If there is a well-established relationship between these variables, then the research will contribute to a strengthening of support for the practical principles, which can facilitate the implementation of knowledge management programs. In keeping with prior research and theory, we state the following hypotheses.

Hypothesis No. 1 (H1): Knowledge sharing is expected to affect positively employee engagement, i.e. a higher amount of knowledge sharing should raise employee engagement.

Hypothesis Ho. 2 (H2): Leadership Development is expected to affect positively employee engagement, i.e. a higher amount of leadership development should raise employee engagement.

Hypothesis No. 3 (H3): Succession planning is expected to affect positively employee engagement, i.e. a higher amount of succession planning should raise employee engagement.

Even when organizations invest in resources to create employee manuals, it would be simply words on the manuals if the organization does not also focus on the social aspect. Furthermore, organizations should hold employees accountable to pass organizational knowledge to facilitate succession, the development of new leadership and encourage employee engagement.

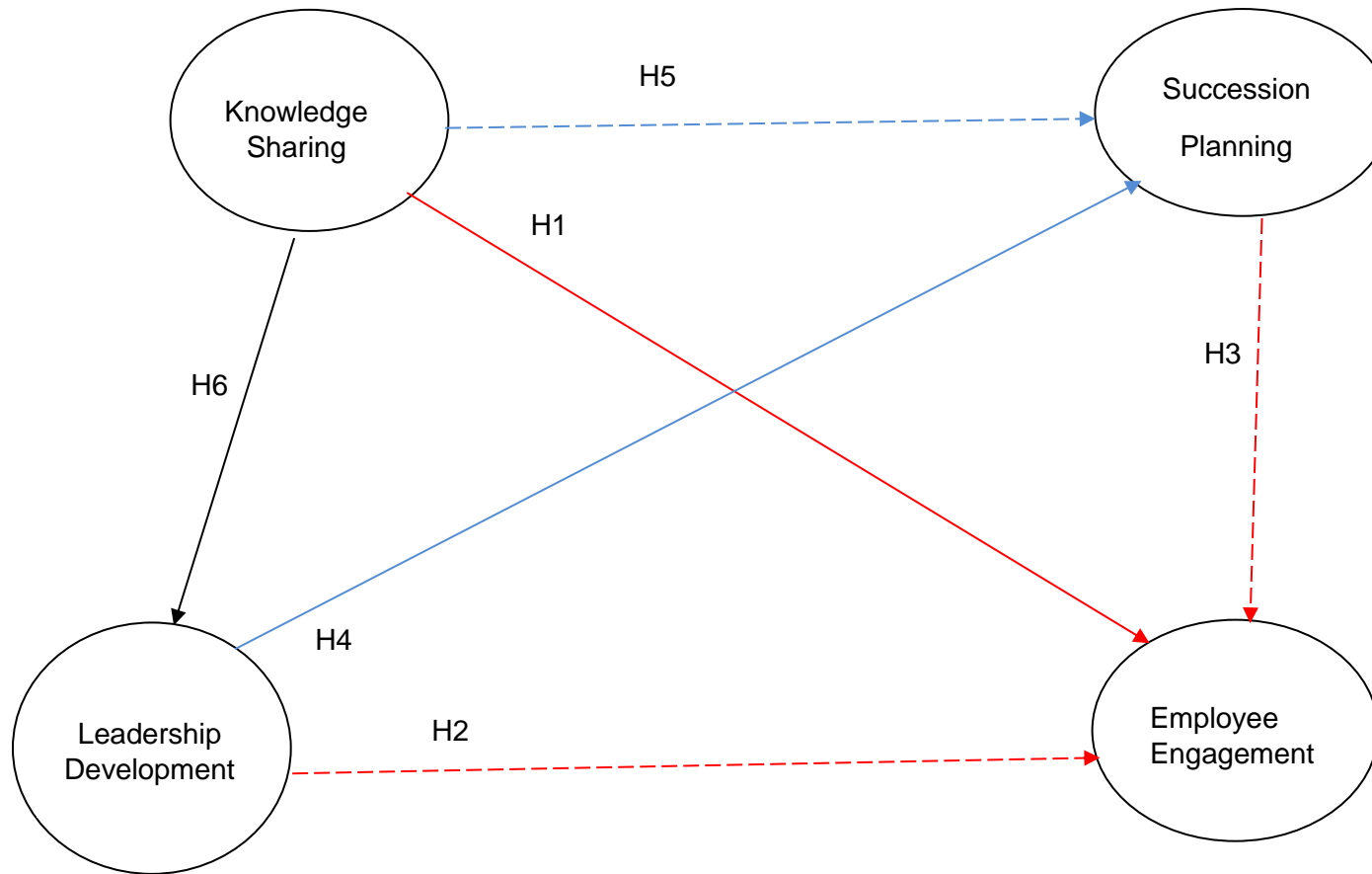


Figure 2: Research Model

Hypothesis No. 4 (H4): Leadership development is expected to affect positively succession planning, i.e. a higher amount of leadership development should raise succession planning.

Hypothesis No. 5 (H5): Knowledge sharing is expected to affect positively succession planning, i.e. a higher amount of knowledge sharing should raise succession planning.

Peet (2012) in her study showed how knowledge sharing assisted new leaders to implement adequate procedures within the organization. The dialogue of knowledge and the process of knowledge conversion from implicit to explicit can assist in the conversion of explicit knowledge (tangible) (Peet, 2012).

Hypothesis No. 6 (H6): Knowledge sharing is expected to affect positively leadership development, i.e. a higher amount of knowledge sharing should raise leadership development.

Methods

The sample accounted for a total of 173 respondents. There were twenty-six (26) departments that responded to the study. The majority of the respondents were in the job ranks of Senior and Middle Management, combining a percentage total of six-one percent (61%) and forty-three percent (43%) held a graduate degree/diploma. There was only a six percent (6%) of the respondents that have a Technical Training/Diploma. The majority of the respondents responded that they had received no promotion over the past three years. There was only a thirty-nine percent (39%) of respondents that received one promotion over the past three years. Thirty percent (30%) of the respondents received four (4) training, a contrast to the thirteen percent (13%) that received no training. The majority of the respondents, representing a total percentage, seventy-eight percent (78%) of respondents has been in the service between zero to ten years.

Additionally, a definition of Knowledge Management was provided to the respondents, as defined by Lawson (2003) and then, they were asked if Knowledge Management was implemented in the department. A large percentage indicated that there was no Knowledge Management or was unsure if Knowledge Management was implemented within their department. According to the literature review, the employees are unfamiliar with the KM terminology because management often confuses KM with the Information Management (IM) or may implement certain principles of KM but not a consolidation of the KM principles. The research employed a single case study drawing on data from the Government of the Virgin

Islands this study and collected responses from public officials in multiple ministerial groups. The questionnaire was distributed online via 'google form' and sent via Lotus to other Government Offices through a random selection process. Confidentiality was assured. However, due to challenges with the link, the HR manager asked this study to distribute the questionnaire to officers selected by the HR Manager. The blind copy feature of the Lotus Notes was used to forward the questionnaire to ensure other participants could not see who were chosen to participate in the study.

Because this only yielded limited responses, this study created a sign-up sheet and asked public officers to provide their email address without providing their names. The public officers targeted were the ones working in the Central Administration Complex and governmental offices situated in the capital, Road Town, of the Territory for accessibility reasons. This strategy did not yield the results expected. Therefore, this study searched for all the departments' electronic addresses on the government website, blind copy (bcc) a participation request to the managers of the departments.

The research instrument was composed of two instruments, the Knowledge Management Assessment Instrument (KMAI) by Lawson (2003) and the Gallup Workplace Audit. The research instrument used the five-point Likert scale, one (1), strongly agree, through five (5), strongly disagree.

Analysis

The statistical techniques used to test the hypotheses were factor analysis, hierarchical multiple regression, and simple linear regression. The items in the instrument were subjected to factor analysis to assure that the variables conformed to prior research, and the hypotheses were tested using the hierarchical multiple regression and simple linear regression.

Data Analysis

The data analysis tests the hypotheses using the hierarchical regression to verify its acceptance or rejection. The model evaluated a mixture of the relationship between employee engagement, leadership development, knowledge sharing and succession planning. Table 2 illustrates the mean and the standard deviations of the main variables.

Table 2. Mean and standard deviation

	Mean	Standard Deviation
Employee Engagement	3.566	0.769
Succession Planning	3.529	0.989
Knowledge Sharing	3.174	0.925
Leadership Development	3.068	1.008

Table 3. A Hierarchical Regression Analysis Summary- Predictors of Employee Engagement (results of step 2)		Model 2	
Variables		β	Sig.
Knowledge Sharing		.602*	.000*
Leadership Development		-.118	.452
Succession Planning		.144	.288
Job Rank		-.133	.205
Education		.015	.889
Promotions		-.026	.807
Training		.051	.625
F		6.094*	
Adjusted R²		.341	
ΔR^2		.018	

*p < 0.001

Hypotheses (H1-H3) were tested using the hierarchical regression analysis; the second model revealed that after eliminating the effects of the control variables that only knowledge sharing is significantly related to employee engagement ($\beta=.602$, $p<0.0001$). Thus, we accept H1 and reject H2 and H3.

Additionally, the regression model is considered to predict the dependent variable as the probability value is less than 0.001. A 34.1% of the total variability in employee engagement can only be explained by knowledge sharing.

Hypotheses (H4-H5) were tested using the hierarchical regression analysis; after eliminating the effects of the control variables, second model indicated that only leadership development is significantly related to succession planning ($\beta=.498$, $p<0.0001$). Thus we accept H4 and reject H5.

Additionally, the regression model is considered to predict the dependent variable as the probability value is less than 0.001. A 42.3% of the total variability in succession planning can only be explained by leadership development.

Table 4. A Hierarchical Regression Analysis Summary- Predictors of Succession Planning (results of step 2)		Model 2	
Variables	β	Sig.	
Leadership Development	.498	.000*	
Knowledge Sharing	.234	.079	
Job Rank	-.144	.136	
Education	.059	.558	
Promotions	.036	.720	
Training	-.023	.810	
F	9.429*		
Adjusted R²	.423		
ΔR^2	.021		

*p < 0.001

H6: Knowledge sharing is expected to affect positively leadership development, i.e. a higher amount of knowledge sharing should raise leadership development.

Hypothesis No. 6 was tested using the hierarchical regression analysis; the second model revealed that after eliminating the effects of the control variables, knowledge sharing is significantly affects ~~related to~~ leadership development ($\beta=.679$, $p<0.0001$). Therefore, we accepted H6.

Additionally, the regression model is considered to predict the dependent variable as the probability value is less than 0.001. A 48.2% of the total variability in leadership development can only be explained by knowledge sharing.

Table 5. A Hierarchical Regression Analysis Summary- Predictors of Leadership Development (results of step 2)		Model 2	
Variables	β	Sig.	
Knowledge Sharing	.679	.000*	
Job Rank	.013	.885	
Education	.074	.438	
Promotions	.146	.122	
Training	.169	.061	
F	13.839*		
Adjusted R²	.482		
ΔR^2	.044		

*p < 0.001

Discussion

The primary objective of this research study was to explore the impact of knowledge management (knowledge sharing) on elements of HRM, such as employee engagement, leadership development, and succession planning. We offer the implications in this section for the results and the limitations of this study and recommendations for future studies.

The findings revealed that H1, H4 and H6 were accepted. Surijah (2015) and Cabrera, Collins and Salgado (2006) reported a positive relationship between knowledge sharing and employee engagement. This research finds that employee engagement is crucial for any organizations attempting to implement KM principles such as, knowledge sharing. Additionally, KM will not work best in isolation. The title “aligning the talent development and succession planning: don’t allow critical leadership to fall by the wayside” Newhall (2015), is relevant to this discussion of the two variables of leadership development and succession because this captures the intent of driving these two variables within this research. It is critical for the management to focus not only on the leadership of today but also on the leadership continuity to ensure that knowledge is passed to the employee and employees are equipped for succession. Bozer, Kuna and Santora (2015) concur that succession planning is essential in making sure that organizations have a leadership continuity program. In the testing of the third hypothesis of the authors research, they found that the succession planning has a positive association with the organizational leadership development (OLD) (Bozer, Kuna and Santora, 2015).

One significant finding (hypothesis 6) of data analysis result was the significance of the relationship between knowledge sharing and leadership development.

Implications

This study provides a starting point for other researchers to explore the relationship between knowledge sharing, employee engagement, leadership development and succession planning in other organizations located in the region. Also, the research study can be replicated to examine how the variables behave in the Private Sector or Non-Government Organizations.

Additionally, the research study is one of a kind in the Territory of the Virgin Islands. Therefore, this research study adds to the Territory’s literature in an area which has not been discussed. Not even when the performance management system of the Public Sector was reformed or revitalized, did the HRM practitioners considered the importance of knowledge

management. This research has initiated a starting point for KM discussions and its possible benefits to the Government of the Virgin Islands, to identify and implement KM strategies, which will assist the new performance appraisal, which could lead to more positive organizational outcomes (Mahmoud and Sitladin, 2018) or even higher levels of readiness to change amongst employees (Mahmoud and Yen, 2018)

Similar to other Public Sectors, for example, California, UK, Australia (Clark, 2015; Al-Bastaki and Shajera, 2014; Cong and Pandya, 2003) who have started an open discussion about KM.

Recommendations for future research study

This study can be conducted using a longitudinal data collection design, which would permit for the data collection process to be repeated over time to verify if the sample's perspective pertaining the variables would change or remain constant (Mahmoud and Grigoriou, 2017; Mahmoud et al., 2017; Mahmoud, 2015; Easterby-Smith, et al., 2012).

This study attributes the level of responses to two main factors, the participation resistance and the secrecy nature within the organizational culture. Regarding the latter, another recommendation is to develop another study within the case study to explore the organizational culture ('ba') variable to ascertain if the organizational culture, which was not statistically examined in this study, acts as a hindrance or stimulus to KM initiatives. Another variable, which can be incorporated into such study is 'trusting' relationship within the organizational culture and its possible relationship with knowledge sharing.

A comment from a respondent stated that the topic, Knowledge Management, was vague, and this study should consider various levels of knowledge access depending on the level of seniority of the public officers. This study disputes this ideology because in creating levels of knowledge access will eliminate the purpose of initiating Knowledge Management. Reiterating on the principles of Knowledge Management, this branch of management prompts knowledge accessibility, knowledge sharing and how these impact employee engagement. Therefore, an area of future study is to consider this, should there be levels of knowledge access and how this may impact employee engagement, leadership development, and succession planning.

Another area which the research can be expanded is by considering the external context that impacts knowledge management. One element of this research considered the internal factors, specifically, HRM strategies, affecting knowledge sharing. It is important to consider that both

management and employees must have positive attitudes towards knowledge sharing so that it can be effective. However, it is important to recognize that there are also external factors that affect the way knowledge sharing occurs. Furthermore, these factors will impact the knowledge sharing positively and negatively. For example, management who gains and exploits external sources and information to increase the internal knowledge capacities and revamp knowledge inventory. Contrarily, the organization is exposed to other external factors, which can have adverse effects on knowledge sharing. There are factors such as external social and economic issues (Lee and Al-Hawamdeh, 2002).

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