

RESEARCH ARTICLE:

## Effect of Working Capital Management on Financial Performance of a State-Owned Enterprise in South Africa

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### Abstract

South Africa's state-owned enterprises (SOEs) have reportedly found it difficult to conserve their financial position in order to improve financial performance. Working capital management (WCM) is a significant component of financial management practices by which firms can be measured and improve financial performance. The study aims to examine the employees' perceptions of the effect of WCM on financial performance of an SOE in South Africa. Cross-sectional, quantitative research and questionnaire approaches were used to collect data from 51 respondents. The study identified the gaps in cash management. The regression coefficient suggests that there is a strong causal relationship between WCM and financial performance of the firm ( $r=0.597$ ;  $p<0.001$ ). The  $F$  test indicates that the relationship is statistically significant ( $p<0.001$ ). It was found that review of WCM accounts for 35.7% ( $R^2 = 0.357$ ) of the variance in finance performance  $F(1, 49) = 27.1560$ ,  $p<0.000$  and it (review of WCM) is also a significant predictor of financial performance, where the relationship was positive ( $\beta = 0.597$ ,  $p<0.001$ ). The study recommends that the SOE considers WCM as a tool for its economic growth.

**Keywords:** working capital management; financial performance; state-owned enterprise

### Introduction

In this 21<sup>st</sup> century, there is an improved number of research studies conducted on the effect of working capital management (WCM) using secondary data for statistical analysis (Abdulazeez, Baba, Fatima and Abdulrahman 2018; Adamu 2016; Ahmed and Mwangi 2022; Alvarez, Sensini and Vazquez 2021; Asaduzzaman and Chowdhury 2014; Basyith, Djazuli and Fauzi 2021; Boisjoly, Conine Jr and McDonald IV 2020; Bolek 2014). WCM refers to the efficient administration of the portion of a firm's capital that is required when the firm finances short-term investments or current assets such as inventory, cash marketable securities and debtors, amongst others. WCM is also known as short-term capital, circulating or revolving capital. WCM is recognised as one of the most crucial solutions to financial mismanagement. This is due to the fact that a business concern gains its strengths and vitality through best WCM practices (Shampa 2015: 155; (Asaduzzaman and Chowdhury 2014: 175). Within the public sector, there is evidence that due to maladministration scandals at SOEs, including cases of fraud and wasteful expenditure reported in almost every financial year, the majority of SOEs cannot survive without government support.

However, SOEs are responsible for ensuring South Africa has a globally competitive system that enables sustained growth and diversification of the country's economy (Transnet 2021). The study seeks to assess the employees' perceptions of the effect of WCM on financial performance of the SOE. There is comprehensive literature addressing the impact of WCM on firms' financial performance using secondary data; however, limited attention has been devoted to employees'

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perceptions of the effect of WCM on firms' financial performance, especially within the SOE and public sector of a developing country and using questionnaires as a data collection instrument. Therefore, this research study will contribute considerably to the already established WCM literature. As the study is intended to establish an understanding of how WCM improves the financial performance of an SOE, the study will contribute through creating positive suggestions on how SOEs can apply WCM practices to achieve improved financial performance.

Guided by the resources and appropriation theory, the study aims to determine employees' perceptions on the effect of WCM practices on improving the financial performance of a SOE in Johannesburg. According to Pike (1986) cited in Yator (2018: 13), efficient resource appropriation does not only concern the adoption of high-level exceptional investment methods; management has to consider the background of the firm. The theory also suggests that management of a firm differs from one firm to another and from one business model to another. The theory's proportion to the study is that the financial performance of a SOE may be influenced by different contextual factors. In the case of the SOE under study, it may include the national executive body that is responsible for hiring and firing SOE's chief executive officers and what drives them to do this. Another proportional element of the theory in relation to this study is the fact that there are financial management practices that might work well with certain firms but not others. The study is guided by the following hypothesis:

H0: There is no correlation between employees' socio-demographic variables and their perceptions of the effect of WCM.

H1: There is a correlation between employees' socio-demographic variables and their perceptions of the effect of WCM.

## Literature Review

This study is aimed at establishing the effect of working capital management on financial performance of a state-owned enterprise in South Africa. A study by Alvarez, Sensini and Vazquez (2021: 32) highlighted a positive relationship each component of working capital has on financial performance. The study suggests that an improved variable of working capital results in positive performance in respect of return on assets and return on equity. The study by Alvarez, Sensini and Vazquez (2021) becomes more resonant with the current research study as it is conducted in a SOE in a country with developing economy. The wealth of the shareholders can be created and destroyed through management of working capital as it can reduce the risk and maximise profit when managed appropriately (Ibrahim and Isiaka 2021: 242).

The study by Seth *et al.* (2020) investigates working capital management efficiency predictions and how they affect business financial performance. It was conducted for a period of 11 years from 2008 to 2019 at 212 Indian manufacturing firms. The study revealed that an average mean efficiency ranged from 0.623 to 0.654. This suggests that the efficiency of Indian firms is around 60% and this was a concern for Indian manufacturing firms. The overall results of the study revealed that WCM has direct impact on the firms' financial performance. In a study by Gołaś (2020: 278) that was aimed at examining the causative link between WCM and Return On Assets (ROA) in milk processing companies, the measures for WCM utilised in the study were Days Sales Outstanding (DSO), Days Sales of Inventory (DSI), Cash Conversion Cycle (CCC) and Days Payable Outstanding (DPO). The study was based on micro-data from Polish dairy companies from 2008–2017, retrieved from the Emerging Markets Information Service (EMIS) database. The study demonstrated that, based on panel regression models, extending the DSI and CCC had a contrary effect on ROA, whereas extending the DSO and DPO had a beneficial impact on ROA in dairy companies. This relationship was mainly characterised by the small and medium-sized enterprises which are the largest businesses in Poland.

In the study by Asaduzzaman and Chowdhury (2014: 175), WCM is defined as the management of short-term financing and investment decisions of the enterprise, adding that the WCM can be

used as a measure of both liquidity and efficiency. This study investigated the effect of WCM on firm profitability in the textiles industry of Bangladesh. It is evident from this study that the financial performance of the organisation can be influenced by many factors, one of which is WCM. The study concludes that WCM significantly affects the profitability of the company. Le *et al.* (2018: 15) agree with this, adding that most empirical studies have shown that the impact of WCM is significant and positive. Niresh (2012: 23) also regards WCM as a crucial part in an organisation's financial performance and defines it as simply the ability of an organisation to fund the difference between short-term assets and short-term liabilities. Alvarez, Sensini and Vazquez (2021: 32) emphasised the importance of the WCM in developing and emerging economies to favour the development and survival of firms, and subsequently reduce the risks of financial distress. This research study targeted the emerging economies; it also utilised a stratified sampling technique to select the companies that are analysed in the study. The positive significant relationship between WCM and profitability was highlighted in the results of the study. This suggests that an increase in WCM variables influences an improvement in WCM in terms of ROA and ROE. Conversely, the study further reveals the statistically negative relationship between leverage and profitability; this signifies that an increase in debt results in a negative financial performance.

It is the argument of this study states that the most vital part in managing WCM is to maintain adequate liquidity to ensure the smooth running of day-to-day operations. As most studies find the WCM significant in relation to financial performance, in contrast, the study by Nthenge and Ringera (2017: 22) on the effect of financial management practices on financial performance of SMEs in Kiambu Town, Kenya, showed that the impact of WCM on financial performance is insignificant when considered individually without other financial management practice factors that influence the financial performance of the business. In respect to WCM and financial performance of an SOE, the study will establish the employees' perceptions if whether or not the WCM results in growth of total revenue in the company, whether WCM has resulted in growth in net income in the enterprise and if the company has growth in market share because of effective WCM.

## Research Methodology

Research design comprises of the combination of collection and analysis of data proceedings for the research study to achieve its goal and objectives by answering all the research questions. The research design employed in this study is quantitative and cross-sectional as the study investigates the effects of financial management practices on financial performance in a SOE. The quantitative research design is where collection and displaying of data is interpreted in numerical form using questionnaires and data analysis procedure which uses graphs and forms statistical variables to generate numerical data, which is then analysed and interpreted (Saunders *et al.* 2015: 414). A questionnaire is the primary tool utilised in the study for data collection. The target population for this study was 69 staff members working in different divisions of the finance department at TFR in Johannesburg. Due to the small population, all 69 staff members were sampled for this study. Non-probability, convenience sampling was used for this study as the staff members selected by the researcher were willingly available and keen to partake in the research study. Out of 69 respondents, only 51 managed to complete and return the questionnaires. The questionnaires were coded and analysed using the Statistical Package for Social Sciences (SPSS) (version 27®). Before discussing the findings of this study, this section deliberately focuses on the reliability of the research instrument. The internal reliability of the component variables constituting WCM, as tested using Cronbach's Alpha Coefficient, showed the Cronbach's Alpha Coefficient for working capital management as ( $\alpha=0.732$ ) indicating that the instrument is sufficiently reliable.

## Data Analysis and Interpretation of Results

Questionnaires were distributed to 51 employees, and all were returned, which constitutes a response rate of 75%. The data collected from the responses was analysed with SPSS in line with the research objectives. Below is the demographic analysis of the respondents:

**Table 1:** Respondents' gender

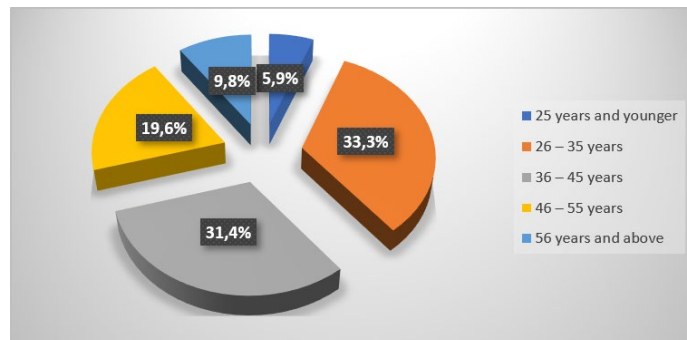
		Frequency	Percent
Gender	Male	30	58.8
	Female	21	41.2
	Total	51	100.0

The data in Table 1 indicates that 58.8% of the respondents were male while females constitute 41.2%. The results show that South African SOEs are still dominated by male workers with fewer female staff.

**Table 2:** Racial profile of the respondents

Racial	Percentage
African	49%
Coloured	17.6%
Indian	5.9%
White	27.5%

According to the data in Table 2, nearly half of the respondents are Africans (49%), followed by Whites (27.5%), Coloureds (17.6%) and Indians (5.9%). The study shows that in the SOE in Johannesburg, the majority of employees are Africans followed by Whites. This suggests that a strong balance of different races is still recommendable.



**Figure 1:** Age distribution of the respondents

The pie chart in figure 2 shows that the majority (33.3%) of the respondents were within 26-35 years of age, 31.4% were within 36-45 years of age, 19.6% were 46-55 years of age, 9.8% were 56 and above years and 5.9% were 25 years and younger. The analysis suggests that respondents within 26-45 years form a good proportion (64.7%) of the age group categories. This reflects the active years of employment in South Africa. The results show that the SOEs are investing more in the youth of South Africa in order to develop a strong generation in leadership.

**Table 3:** Respondents' level of education

Qualification	Percentage
Matric	2%
Diploma	13.7%
Degree	76.5%
Professional qualification	7.8%

The respondents' level of education is given in Table 3. The data shows that the majority (76.5%) of the respondents hold a degree, 13.7% hold a National Diploma, 7.8% hold a professional qualification and only one (2%) had a National Certificate (Grade 12). The analysis indicates that

a high proportion (90.2%) of the respondents collectively hold a National Diploma and Degree. The analysis suggests that a good number of the respondents had a degree qualification. The results show that the SOE is not prioritising employee candidates with professional qualifications in accounting. Instead, there is more focus on employees to obtain degree qualifications.

**Table 4:** Showing the business sectors

		Frequency	Percent
Experience in the organisation	0 – 1 years	3	5.9
	>1 – 2 years	4	7.8
	>2 – 4 years	8	15.7
	>4 – 5 years	11	21.6
	> 5 years	25	49.0
	Total	51	100.0

The data in Table 4 shows that nearly half (49%) of the respondents have had been with the organisation for more than five years, 21.6% had been at the organisation for between four and five years, 15.7% have had between two and four years of work experience with the organisation, 7.8% have had between one and two years and three (5.9%) have had no more than one-year’s work experience with the organisation. Investing more in the youth for staffing has resulted in poor work experience for staff in the organisation.

### Perceived Employees’ Perceptions of the Effect of WCM on Financial Performance

This section seeks to discuss the results of the study’s first objective which is to assess the employees’ perceptions of the effect of WCM on financial performance. The results are presented below:

**Table 5:** Perceived employees’ perceptions of the effect of WCM on financial performance

IV	R	R <sup>2</sup>	F	df1; df2	p-value	B (regression coefficient)	t	p-value	DV
Review of WCM	0.597	0.357	27.150	1; 49	.000	0.597	5.211	.000	Financial performance

As shown in Table 5, the regression coefficient suggests that there is a strong causal relationship in the model ( $r=0.597$ ;  $p<0.001$ ). The F test indicates that the relationship is statistically significant ( $p<0.001$ ). It was found that review of WCM accounts for 35.7% ( $R^2 = 0.357$ ) of the variance in financial performance  $F(1, 49) = 27.1560$ ,  $p<.000$  and it (review of WCM) is also a significant predictor of financial performance, where the relationship was positive ( $\beta = 0.597$ ,  $p<.001$ ). The results indicate that as a review of WCM increases (agreement that the firm reviews WCM), financial performance (agreement on financial performance) increases.

### Employees’ Experiences of WCM

This section details the experience of the respondents relating to WCM. Positive statements (strongly agree and agree) were interpreted (conflated) as agreement, while negative statements (disagree and strongly disagree) were interpreted (conflated) as disagreement. The four-point Likert scale used was coded as (1) Strongly disagree, (2) Disagree, (3) Strongly agree and (4) Agree.

**Table 6:** Employees’ experience of WCM

Statement	Mean (SD)	t	Df	P-value
1. The business prepares cash budgets on a regular basis.	4.06 (1.008)	28.750	50	.000

2. The company determines the target cash balances regularly.	1.65 (1.467)	8.016	50	.000
3. The organisation holds cash (for precautionary and operational reasons).	4.25 (.560)	54.250	50	.000
4. The organisation has adopted the automation of cash management processes.	4.29 (.460)	66.640	50	.000
5. Cash surplus is invested in marketable securities.	4.12 (.325)	90.370	50	.000
6. The organisation has a credit policy.	4.27 (.666)	45.857	50	.000
7. The enterprise is setting up credit guidelines for clients regularly.	3.65 (1.146)	22.730	50	.000
8. Review of levels of receivables is done frequently.	3.96 (.564)	50.125	50	.000
9. Review of levels of bad debts is done frequently.	3.61 (.874)	29.494	50	.000
10. The company does the preparation of inventory budgets regularly.	3.00 (1.200)	17.854	50	.000
11. Review of inventory level is done on a regular basis.	3.78(.757)	35.716	50	.000
12. The company replacement of stock is done frequently.	3.88(.683)	40.620	50	.000
13. WCM results from growth in total revenue in the company.	3.90(.781)	35.672	50	.000
14. WCM has growth effect in total assets within the enterprise.	3.84(.809)	33.914	50	.000
15. WCM has resulted in growth in net income in the enterprise.	3.94(.732)	38.427	50	.000
16. The company has growth in market share as a result of effective WCM.	3.27(1.060)	22.066	50	.000

The mean value was used to show the level of agreement and disagreement. A one-sample t-test was applied to determine if there is significant agreement or disagreement with each statement. The average agreement score was tested against the central score of '3' to determine if it is significantly different from '3'. The results are summarised in the sub-sections below. As shown in Table 5, the mean values measured for the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>, 13<sup>th</sup>, 14<sup>th</sup>, 15<sup>th</sup> and 16<sup>th</sup> statements were above 3. This suggests that there is a significant agreement to these statements. The statement with the strongest agreement was the 3<sup>rd</sup> which was stated as "The organisation has adopted the automation of cash management processes" (M=4.29; SD=0.460; t (50) =66.640, p<0.001). On the contrary, the mean value measured for the 9<sup>th</sup> statement was 3. This suggests that the respondents neither agreed nor disagreed with this statement which was stated as "The company prepares inventory budgets regularly" (M=3.00; SD=1.200; t (50) =17.854, p<0.001).

In summary, the study found that the respondents' experiences of WCM have led to their agreement that effective practices of WCM such as preparation of cash budget on a regular basis, holding of cash (for precautionary and operational reasons) and adoption of automation of cash management processes lead to enhanced financial performance. In terms of statement 1: "The business prepares cash budgets on a regular basis", most of the respondents agreed while a few disagreed. Similarly, many of the respondents agreed that the organisation holds cash (for precautionary and operational reasons) while the minority disagreed. All the respondents agreed that their organisation has adopted the automation of cash management and that cash surplus is invested in marketable securities. Respondents believed that their organisation has a credit policy, and that the enterprise is setting up credit guidelines for clients regularly. Nevertheless, most of the respondents believed that the manual review of levels of receivables and bad debts are done frequently while few were in disagreement. More than half of the respondents disagreed

that the company does the preparation of inventory budgets regularly while nearly half of the respondents agreed.

Nonetheless, the majority agreed that the review of inventory is done on a regular basis while a few disagreed with the statement. Equally relevant, most of the respondents agreed that the company replacement of stock is done regularly and that WCM has resulted in growth in net income in the enterprise. Despite this, most of the respondents agreed that the company has growth in market share because of effective WCM. These results are consistent with the findings of the research by Nthenge and Ringera (2017), Abdulazeez *et al.* (2018), Alvarez, Sensini and Vazquez (2021) and Ibrahim and Isiaka (2021). These studies signify that by utilising the WCM practices, the firm realises the growth in total assets, a growth in net income, a growth in market share and growth in revenue. This signifies that financial performance can be predicted through financial management systems implemented in a SOE.

### Factor Coefficient on WCM

From the factor analysis, two factors emerged from the WCM, namely financial performance (dependent variable) and review of WCM (independent variable). Using the Eigen values greater than-one, the principal component analysis (PCA) for the extracted items for WCM revealed five factors explaining 67.98% of the total variance. This suggests that the respondents view WCM under five separate factors. Factor 1 contains five items (Item Q11-21) which are categorised under “financial performance”. Factor 2 contains four items (Item Q23-25); however, item 26 has negative factor loading and was removed. Factor 2 is categorised under the “review of WCM”. Factor 3 and Factor 5 each contain two items while Factor 4 has only one item. Since the rule of thumb suggests that a factor must have at least three items, Factors 3, 4 and 5 were not considered for further analysis.

**Table 7:** Factor coefficient on WCM

Statement	Component				
	1	2	3	4	5
17. WCM has growth effect in total assets within the enterprise.	.860				
18. WCM has resulted in growth in net income in the enterprise.	.735				
19. The company has growth in market share as a result of effective WCM.	.707				
20. The company replacement of stock is done frequently.	.704				
21. WCM results in growth in total revenue in the company.	.700				
22. Review of levels of receivables is done frequently.					
23. Review of levels of bad debts is done frequently.		.748			
24. Review of inventory level is done on a regular basis.		.719			
25. The company does the preparation of inventory budgets regularly.		.706			
26. The organisation holds cash (for precautionary and operational reasons).		-.585			
27. The enterprise is setting up credit guidelines for clients regularly.			.778		
28. The organisation has a credit policy.			.712		
29. The business prepares cash budgets on a regular basis.				.780	

30. The organisation has adopted the automation of cash management processes.					.844
31. Cash surplus is invested in marketable securities.					.714

Confirmatory factor analysis (CFA) was computed to validate the exploratory factor analysis (EFA) of the two factors uncovered for WCM. The reliability of the two factors (financial performance and review of WCM) was assessed using Cronbach's Alpha and composite reliability. The data shows that each of the dimensions has acceptable reliability. The validity of the dimensions was assessed using both convergent and discriminant validity. The convergent validity was assessed using the average variance extracted (AVE). A standardised factor loading with a value of 0.50 or higher provides strong evidence of convergent validity.

**Table 8:** Showing the reliability, discriminant and convergent validity

	<b>Cronbach's Alpha</b>	<b>CR</b>	<b>AVE</b>	<b>MSV</b>	<b>MaxR(H)</b>	<b>Financial performance</b>	<b>Review of WCM</b>
32. Financial performance	0.851	0.848	0.631	0.289	0.907	0.736	
33. Review of WCM	0.711	0.892	0.626	0.289	0.804	0.538	0.689

As shown in Table 8, the AVE for the two factors mentioned above have a factor loading above the recommended value, which suggests adequate convergent validity. Discriminant validity was assessed using maximum shared square variance (MSV). Based on the rule of thumb, the AVE value should be greater than the MSV (Mimouni-Chaabane and Volle, 2010). The AVE values for the two factors were found to be greater than the measured MSV values, which suggests discriminant validity.

### Study Hypotheses Results

H1 hypothesised that there is a correlation between the respondents' socio-demographic variables and employees' perceptions of the effect of WCM constructs, whereas H0 anticipated there is no correlation between the respondents' socio-demographic variables and effect of WCM constructs. The relationship between the respondents' demographic characteristics (gender, age, racial group, level of education and work experience) and the constructs (WCM of the firm) was conducted using a one-way Analysis of Variance (ANOVA). The results are summarised in Table 9. In terms of the respondents' gender, the results of the ANOVA in Table 9 reveal there is no difference in their views on WCM (P=0.264). In terms of the age group, the ANOVA values measured suggest that there are no differences in the respondents' views of the constructs, namely WCM (P=0.422). This suggests that regardless of the age group identified by the respondents, their views were the same. In terms of race, the ANOVA values measured suggest that there are no differences in the respondents' views of the WCM (P=0.261). This suggests that regardless of the racial group identified by the respondents, their views were similar. In terms of level of education (qualification), the ANOVA values measured show that there are statistically significant differences in views of the respondents of WCM (P=0.002). It was found that Diploma holders agreed more with the statements measuring WCM (M=4.13±0.36) when compared to other levels of education.

**Table 9:** Relationship between socio-demographic variables and WCM constructs

<b>Socio-demographic</b>	<b>WCM</b>
	<b>M±SD</b>
<b>Gender</b>	
Male	3.67±.31
Female	3.78±.4
Sig.	0.264
<b>Age group</b>	



25 years and younger	3.94±0.22
26 - 35 years	3.79±0.28
36 - 45 years	3.73±0.43
46 - 55 years	3.59±0.33
56 years and above	3.56 ±0.46
Sig.	0.422
<b>Race</b>	
African	3.67±.35
Coloured	3.60±.20
Indian	3.73±0.19
White	3.88±0.45
Sig.	.261
<b>Qualification</b>	
Matric	3.81±0.00
Diploma	4.13±0.36
Degree	3.62±0.32
Professional qualification	3.91±0.12
Sig.	0.002***
<b>Work experience</b>	
0 - 1 years	3.81±0.00
>1 - 2 years	4.22±0.46
>2 - 4 years	3.86±0.21
>4 - 5 years	3.68±0.32
> 5 years	3.60±0.35
Sig.	0.011**

Moreover, in terms of working experience in the organisation, the ANOVA values suggest that there are statistically significant differences in views of the respondents regarding WCM ( $P=0.011$ ). It was found that those that have had >1 and 2 years' work experience agreed more with the statements measuring WCM ( $M=4.22\pm0.46$ ) when compared to other years of work experience. In terms of the age group, the ANOVA values measured suggest that there are no differences in the respondents' views of WCM practices ( $P=0.651$ ). This suggests that regardless of the background, their views were often similar.

## Conclusion and Recommendations

The aim of the study was to determine finance staff's perceptions of the effects of WCM practices on improving financial performance, with specific reference to a SOE in Johannesburg. To achieve this, the study had established three core objectives: (1) to assess the effect of WCM on financial performance, (2) examine the respondents' experiences of WCM, and (3) demonstrate correlation between the socio-demographic variables and effects of WCM constructs. The regression coefficient suggests that there is a strong causal relationship between WCM and financial performance of the firm ( $r=0.597$ ;  $p<0.001$ ). The F test indicates that the relationship is statistically significant ( $p<0.001$ ). It was found that review of WCM accounts for 35.7% ( $R^2 = 0.357$ ) of the variance in finance performance  $F(1, 49) = 27.1560$ ,  $p<.000$  and it (review of WCM) is also a significant predictor of financial performance, where the relationship was positive ( $\beta = 0.597$ ,  $p<.001$ ).

The study found that the respondents' experiences of WCM have led to their agreement that effective practices of WCM such as preparation of cash budgets on a regular basis, holding of cash (for precautionary and operational reasons) and adoption of automation of cash management processes lead to enhanced financial performance. In terms of the relationship between the respondents' socio-biographic data and WCM, the study shows that there are statistically significant differences in views of the respondents between the level of education and working experiences against WCM at ( $P=0.002$ ) and ( $P=0.002$ ) respectively. The results also revealed that

the practice of determining target cash balances on a regular basis was not applied. The study recommends that the SOE considers WCM as a tool for its economic growth.

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