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Examining Risk Management Approaches in Guyana's Commercial Banking Sector

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Abstract

This study examines risk management approaches amongst commercial banks in Guyana's banking sector by examining senior-level bank managers' perception of commercial banks' approach to managing operational, financial and credit risks. Amidst the many challenges the global banking industry must navigate, including the lingering effects of the 2008 global financial crisis on emerging economies such as Guyana, this mixed methods study aims to fill the gap in the lack of research, particularly concerning Guyana's commercial banking industry. The study evaluates current risk management policies and practices and how effective they are compared to international standards. The study also proposes to examine the competencies of personnel with direct responsibilities and oversights for managing risks within the banks, as well as the influence of external dynamics such as global financial trends. Employing a combination of semi-structured interviews, and likert scale surveys, Likert draws on quantitative insights from those leading risk management efforts in the banking system to garner a nuanced understanding of the issue.

Keywords: *Bank Default Risk, Commercial Banks, Commercial Banking Sector, Credit Risk, Liquidity Risk, Risk Management Practices, Structural Equation Model of Risk Capacity.*

Introduction

The value of sound risk management practices in the global banking sector is significant, particularly in developing countries such as Guyana. The 2008 global financial crisis exposed the inherent weaknesses of the worldwide banking system to a plethora of financial and operational risks [16]. Guyana's commercial banking sector was open to these financial crises since 'the risk management practices they adopt are like those adopted by the banking sectors in other developing countries. These include inadequate differentiation of risks, zero rating of sovereign loans, and a false sense of comfort derived from high-risk weighted capital ratios [8]. Dacosta [8], further contends that 'Guyana is transitioning to Basel II standards and that liquidity and market risks are not significant factors in the country's banking sector' (p.2). However, despite the critical needs underscored by these findings, there needs to be more empirical evidence from comprehensive peer-reviewed published research on risk management practices in this context. This gap is significant, considering the unique socioeconomic and regulatory frameworks that influence banking practices in Guyana, which may differ significantly from those in more developed countries.

Furthermore, the evolving nature of risks, compounded by rapid technological developments, and the interconnectedness of the global banking sector underscores the need for rigorous reviews and assessment of risk management approaches. Concerning Guyana, technological integration into banking has been at a different pace and in line with global standards in many respects. As a result, they

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impact the efficient and effective implementation of risk management strategies [9].

Subsequently, understanding the perspectives of senior-level bank managers in Guyana about commercial banks' approaches to managing operational, financial, and credit risks is critical since they are directly involved with shaping, leading implementation, and overseeing risk management policies [9]. From quantitative standpoint, their perspectives provided valuable insight into the practical opportunities for improving practice and the challenges of implementation and effective oversight. Therefore, examining the approaches to risk management practices in Guyana's commercial banking sector is crucial.

Literature Review

Risk management has been perceived as a critical factor in improving bank financial performance, and several studies in this area have often produced consistent results. Several research highlights a positive relationship between risk management practices and bank performance, as evidenced in Kenya (Add reference or citation detail here if available), the United Kingdom [21], and Nigeria [2, 19]. These studies suggest that effective risk management contributes to better fund utilization and reduces unnecessary costs. These findings also highlight the fact that risk management in banking has gained increased significance over the past decade, particularly following the Financial Crisis of 2008. According to the [5], the decade preceding the crisis saw unprecedented global economic growth fueled by excessive risk-taking, as bankers pursued profits and bonuses with increasingly risky positions. This historical context underscores the need for robust risk management frameworks in the banking sector.

Researchers [22] categorizes risks in the financial system into three broad types: financial risk, business risk, and operational risk. Operational risk management is especially critical, as it helps identify prohibited activities, mitigate future exposures, and reduce operational losses [11]. Kolapo, [15] conducted a study in Nigeria, revealing significant credit risk impact the performance of banks, measured by Return on Assets. This finding was consistent across banks. As a result, emphasizing the need for improved credit analysis and loan administration by banks and stricter regulatory oversight. The literature also identifies eleven fundamental principles guiding operational risk management in banks. These principles emphasize the responsibilities of the board of directors and senior management in embedding sound operational risk practices. They also highlight the importance of establishing appropriate frameworks, systems, policies, and standards at all levels of bank operations [3].

Risk management is not only essential for regulatory compliance but also for enhancing financial and operational performance [3]. Nazir et al; [18] compared risk management practices between conventional and Islamic banks in Pakistan, finding that Pakistani banks were proficient in credit risk analysis and monitoring.

The study concluded that understanding risk is a fundamental variable in effective risk management.

In Nepal, Kattel [14] explored risk measurement practices among commercial banks. The study revealed that Nepalese banks utilize various techniques, such as the matrix method, internal rating approaches, and causal models, to identify and evaluate risk levels effectively. This proactive approach underscores the importance of establishing robust risk management practices promptly. Wood and Kellman [25] examined risk management practices in Barbadian banks, identifying credit, operational, sovereign, interest rate, and market risks as key challenges. The study found that risk managers viewed these practices as critical to performance and noted their evolution alongside economic and

regulatory changes. It also highlighted the heightened risk focus of Barbadian banks in response to a depressed economic climate.

Imbierowicz, & Rauch, [12] investigated the relationship between liquidity risk and credit risk, two major sources of bank default. Their findings provided valuable insights into bank risks and informed regulatory efforts such as Basel III and the Dodd-Frank frameworks [4] further emphasized the importance of managing foreign exchange, credit, and operational risks, which were identified as the most significant challenges for UAE banks.

Operational risk management in banks is often structured around the "three lines of defense" model. The first line of defense involves business lines that identify, own, and manage risks arising from their activities [14]. The second line focuses on risk management and compliance functions, ensuring the first line operates effectively [22]. The third line, internal audit, provides independent assurance on governance, risk management, and internal controls [22]. Effective implementation of this model requires active support from board members and senior management.

Methodology

The study employed a quantitative methodology. This approach to research design focused the documentation, description and exploration of relationships between numerical variables that underpins a research problem [7]. Equally, correlational analysis focused on determining the "degree to which a relationship exists between two or more variables" [10], p. 2. Therefore, the use of the quantitative methodology is justified since it's underpinned by the positivist paradigm, focusing on the extraction and analysis of objective data [24]. This approach provided the impetus for elimination of subjectivity, and a neutral stance with regards to data analysis [7]. As a result, the focus on quantitative – descriptive, correlational design, allowed for unbiased, in-depth analysis of current risk management practices adopted by participants and their effectiveness.

The population for this study is the Credit Officers, Senior Supervisors, Credit Managers, and Risk Managers, working in the six (6) commercial banks, with subsidiary branches spread across the ten (10) regions of Guyana. There is a total of forty (40) officers that deals specifically with risk management related issues, and this study targets one hundred percent of this population. Given the small size of this population, this approach, targeting 100% of the population eliminates sample bias, enhances validity, and reliability of the findings, eliminates sampling errors, and provides a comprehensive understanding of the population [6].

With regards to the sample size, according to [24] “the sample size for both the quantitative and qualitative components needs to balance comprehensiveness with feasibility, ensuring enough data is collected to achieve statistical power and depth of insight while considering constraints such as time and resources” (p. 53). There are six (6) Commercial banks, with a combined forty-four (44) branches located across Guyana. All forty (40) Credit Officers, Senior Supervisors, Credit Managers, and Risk Managers representing 100% of the population, were surveyed for this study.

A 20 items Likert scale questionnaire, including one open-ended question related to participant's current position at the bank, was developed to gather data to measure the participants’ perceptions related to risk management approaches in the commercial banking sector. The questionnaire was designed to capture responses that were analyzed using the Structural Equation Model (SEM). Where the observed variables were rated on a 5-point Likert scale, ranging from 1 (Very Ineffective) to 5 (Very Effective).

The use of Structural Equation Modeling (SEM) is justified since it provided the impetus for investigating causal relationship amongst the three variables that underpins this research.

Structural Equation Modeling (SEM) provided the framework to investigate causal relationships among the variables, and to understand how each contributes to overall performance. SEM is a powerful tool that combines factor analysis and multiple regression analysis to analyze relationships among multiple variables [24].

Results

Effective risk management practices are critical for the stability and resilience of financial institutions, particularly banks, which face a variety of complex risks in their operations. Measuring the capacity to manage these risks is essential for evaluating and improving risk management strategies. In this study, the latent variable Risk Capacity was measured using three observed variables designed to capture the perceived effectiveness of a bank's current risk management practices across key risk domains. These observed variables were rated on a 5-point Likert scale, ranging from 1 (Very Ineffective) to 5 (Very Effective).

- Q7A. Rate the effectiveness of your bank's current risk management practices in managing the following risks: Operational risks (Likert scale: 1 - Very ineffective to 5 - Very effective).
- Q7B. Rate the effectiveness of your bank's current risk management practices in managing the following risks: Financial risks (Likert scale: 1 - Very ineffective to 5 - Very effective).
- Q7C. Rate the effectiveness of your bank's current risk management practices in managing the following risks: Credit risks (Likert scale: 1 - Very ineffective to 5 - Very effective).

The first observed variable, Q7A, assessed the effectiveness of risk management practices in managing operational risks. The second observed variable, Q7B, measured the effectiveness of risk management in addressing financial risks. Lastly, Q7C focused on the management of credit risks. Together, these three observed variables provide a measure of a bank's Risk Capacity, reflecting its ability to effectively mitigate critical areas of risk.

This structural equation model (SEM) analysis validates the construct of Risk Capacity by examining how well these observed variables load onto the latent variable, thereby providing insights into the robustness of current risk management practices across operational, financial, and credit risk domains. The findings contribute to understanding the multidimensional nature of risk capacity.

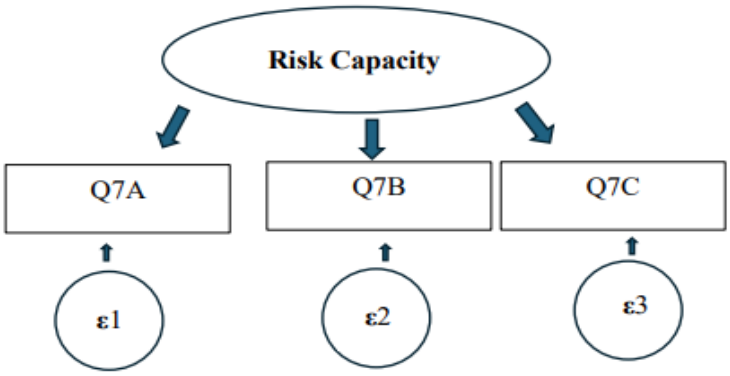

Figure 1. Structural Equation Model of Risk Capacity [23]

A structural equation model (SEM) was estimated to examine the relationship between the latent variable Risk Capacity and the observed variables Q7A, Q7B, and Q7C, using data from a sample of 40 participants. The model was just-identified, meaning the number of estimated parameters matched the available data points, resulting in a perfect fit to the data

by design. Goodness-of-fit statistics confirmed the model's adequacy, with a root mean squared error of approximation (RMSEA) of 0.000 (90% CI: [0.000, 0.000], a comparative fit index (CFI) of 1.000, a Tucker-Lewis index (TLI) of 1.000, and a standardized root mean squared residual (SRMR) of 0.000. Additionally, the coefficient of determination (CD) indicated that the latent variable explained 97.2% of the variance in the observed variables.

All three observed variables loaded significantly onto the latent construct Risk Capacity, with standardized factor loadings ranging from moderate to strong. Specifically, Q7A had the highest loading ($\beta = 0.985$, $p < 0.001$), followed by Q7B ($\beta = 0.837$, $p < 0.001$) and Q7C ($\beta = 0.607$, $p < 0.001$). These results suggest that Q7A is the strongest indicator of the latent variable, while Q7C shows a moderate association. Residual variances for the observed variables indicated that most of the variability in Q7A and Q7B was explained by the latent variable, while a higher proportion of variability in Q7C remained unexplained.

Overall, the results provide strong support for the construct validity of Risk Capacity as measured by Q7A, Q7B, and Q7C, with the model explaining a substantial proportion of variance in the observed indicators. However, it is important to note that the small sample size ($n = 40$) and the just-identified nature of the model limit the ability to evaluate the model's overall fit beyond the reported metrics. Future research should validate this model using a larger sample and potentially expand the model to include additional constructs or observed variables.

Discussion

The result of this study underscores the crucial importance of risk management practices in Guyana's commercial banking sector, particularly with regards to enhancing the stability, and by extension the resilience of commercial banks in the sector. Applying the Structural Equation Model [24; 6], validation was provided with regards to the construct of risk capacity, which was measured through an examination of three key variables, operational risks (Q7A), financial risks (Q7B), and credit risks (Q7C). The outcome provides significant explicit perspective into the multi-faceted nature of risk capacity and the degree to which banks have the capacity to leverage effective practices to mitigate these critical risk domains [8].

The goodness-of-fit analysis highlighted the relevance of the SME model, a perfect fit, demonstrated by the RMSEA, CFI, TLI, and SRMR values, indicating outstanding performance of the model. This performance validates the strong relationship between the latent variable and its observed variables. As a result, proving the model's capacity to amply capture the construct of Risk Capacity [17]. Equally, the coefficient of determination shows that the latent variable explained a substantial 97.2% of the variance in the observed variables, as a result confirming the model's advanced capacity to explore relationships between variables, when compared to other approaches.

Further substantiation is provided by the standardized factor loadings which shows the relative contributions of each observed variable to the latent construct. As a result, amongst the variables Q7A (operational risks) exhibited the strongest association with Risk Capacity ($\beta = 0.985$). This is significant as it emphasizes the significant emphasis commercial banks place on managing operational risk. According to [20], this underscores the importance of operational risk as a key indicator or the banks overall risk capacity. And therefore, necessitates guarding against process inefficiencies, system failures, and other day-to-day challenges which threatens the stability of commercial banks [13].

Q7B financial risks also highlighted a strong loading ($\beta = 0.837$), confirming its important role in defining Risk Capacity [23], argues that 'effective management of financial risks, such

as market volatility, liquidity constraints, and exchange rate fluctuations, is vital for ensuring financial stability and long-term growth' (p.4). As a result, these findings strengthen the argument and reaffirms the importance of banks employing prudent financial risk management practice as a key pillar of commercial banks risk mitigation strategies.

Regarding Q7C credit risks, there is a comparatively moderate association (β = 0.607). This outcome suggests that while credit risk plays a significant role, and as a result, an important contributor to risk capacity, it's not focused on as strongly when compared to financial and operational risk. This finding underscores significant variabilities in managers perceptions about the differences in the prioritization of credit risks compared to operational and financial risks. Further, the residual variance for Q7C, which was higher than for Q7A and Q7B, indicates that additional factors in Guyana such a market conditions, regulatory frameworks, or individual bank policies, [13, 20, 23] beyond the latent variable may influence perceptions of credit risk management effectiveness.

Overall, while the findings strongly support the construct validity of Risk Capacity, certain limitations should be acknowledged. The small sample size (n = 40) and the just-identified nature of the model is likely to restrict the generalizability of the findings. Equally, even though the perfect fit statistics provides some measure of assurance they often reflect the inherent constraints of a just-identified model rather than a universally valid representation of the construct [17].

Conclusion

This study provides empirical evidence that risk capacity is a strong measure of commercial banks' ability to manage financial, credit and operational risk. Further, the findings underscore the fact that priority is given to the management of financial and operational risk, while, in tandem, recognizing the need for more robust focus on credit risk. These findings provide the groundwork for border discussions, and exploration of risk management in financial institutions, inclusive of those which operates outside of the ambit of commercial banking laws. As a result, establishing the impetus for further research in the field. Such extensions would enable researchers and practitioners to explore how various dimensions of risk management interact to shape the overall capacity of financial institutions navigating the world of risk.

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Conflict of Interest

The author has no conflict of interest related to this published article.

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