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Operational Risk Management Systems Implementation in Ghanaian Banks: The Critical Success Factors

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Abstract

This quantitative study investigates the critical success factors for effective implementation of operational risk management systems in Ghanaian banks. A validated survey instrument was used in the data collection across 30 commercial banks in Accra. Factor analysis was deployed to extract the most critical success factors in testing all eight hypotheses. The Pearson correlation result reveals that independent variables: Risk Governance, Risk Management Policy, Risk Management Planning, Customized Risk Management Process, Risk management Implementation, Risk Management Training, Risk-based Performance Appraisal and Risk Management Culture were positively and statistically significant with effective ORMS implementation in Ghanaian banks. Hence, the eight independent variables were identified as critical success factors for effective ORMS Implementation in Ghanaian banks. The study recommends that top management should invest into the development of comprehensive risk management plans and policies, and to integrate these policies into the overall strategic risk culture for an effective ORMS implementation in their banks. The study made other key recommendations.

Keywords: Critical success factors; Operational risk; Risk governance; Customized risk management process; Operational risk management systems.

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1. Introduction

The increasing rate of operational risk management system (ORMS) failures in financial institutions is due to the over-reliance on operational risk (OR) quantification and insurance underwritings [4]. An approach described by many researchers [28, 11] as non-holistic to ORMS. A financial institution [38] is a system and therefore, require sets of systems for efficient management of OR. Operational risk management (ORM) as a continuous process of identifying, controlling and mitigating OR through the establishment of effective ORMSs [15]. ORM is a management process that begins with the establishment of effective ORM processes, activities and standards [25]. Therefore, effective ORMS require the integration of ORM processes into the overall risk management systems (RMS) of a financial institution [31]. The Basel frameworks require banks to implement firm-wide RMS as a reliable approach to managing OR [21]. The effectiveness of ORMS depends on the overall day-to-day management activities and not an isolated treatment for OR. Some studies have cited the isolated treatment and quantification of OR as a major cause of ORMS failures in the banking industry [21, 34], with some researchers [38, 15] recommending different enterprise risk management (ERM) solutions and integrated technologies for ORMS. The study by [25] also linked good bank performance to the implementation of integrated, firm-wide risk management systems as a reliable approach for ORMS. A bank's ORMS effectiveness; [1] is based on the adoption of an overall operations and quality management system (OQMS). Therefore, the use of integrated management systems in banks for the ORM is considered the most proactive approach [31]. There exists a strong relationship between ORMS based on OQMS for the non-financial services sector [15]. Some researchers [39, 35] argue that OQMS influence bank's ORMS performance. Other studies hypothesized a strong relationship between ORMS and corporate risk governance, effective communication, employee training, top management commitment and strategic alignment [34, 35]. Without a robust ORMS in banks, a well-designed ORMS solution could be rendered ineffective and less useful. Hence, adopting critical success factors to drive effective implementation of ORMS is of grave concern. Success factors such as top management commitment, employee involvement, communication, planning and training, implementation and regular review of management systems on performance [15, 38]. Many banking institutions lack effective ORMS to sustain the overall organizational performance even though, several frameworks were being implemented to manage OR in banks [38] Therefore, this study sought to investigate the issue among Ghanaian banks and to identify the critical success factors for effective implementation of ORMS.

2. Literature Review

This section reviews extant literature on operational risk management systems (ORMS). ORMS theoretical assumptions and models from different perspectives were also reviewed. These models include but not limited to the systemic theory, Basel II framework, business environment and internal control factors, scenario analysis and operational risk management model.

2.1 Theories of Operational Risk Management System Models

Various systemic approaches have been theorized for effective ORMS in banks. These ORMS approaches suggests that a bank formulates, search, explain and interpret accurate information related ORM in their banks [14, 4]. The study reviewed a six-step systemic approach for ORM under advanced measurement approach

(AMA) as contained in Basel II [40]. Basel II endorsed [32] the use of internal data, external data, and scenario analysis, as well as Business Environment and Internal Control Factors (BEICFs) to achieve quantitative ORM under AMA approach. BEICF approach is anchored on four axes of ORM [41]; dashboards (scorecard), key performance indicators (KPIs), key risk indicators (KRIs), and risk and control self-assessment (RCSA). The use of RCSA, KRIs and scorecards underscore the use of operations management and quality management (OMQM) approaches to attain systemic compliance [4]. Some studies [11, 38] also confirmed the rising popularity of KPIs, KRIs, and RCSA as effective ORM tools in banks. ORM under AMA approach is more of a risk management system approach rather than a measurement approach. Banks and bank branches are systems and therefore require systemic approaches to managing their operational risk challenges [32]. One such systemic approach is the AMA approach under Basel II [40]. The AMA approach requires banks to develop and implement their own risk management systems towards an efficient ORM. ORM system's approach positions a bank's system to identify, prevent and mitigate OR hazards [17]. ORMS is an open system consisting of infrastructure, strategy, processes and validation; which when deployed effectively, positions a bank to identify, prevent and mitigate OR hazards timely [4]. The theorized model for operational risk management system (ORMS) model implementation [15] was adapted for this study. The model was founded on OQMS research, Basel II ORMS framework [40], and systemic approach for operational risk (SAFOR) [4]. The source of most risk theories; corporate risk governance, systems theory, risk tradeoff, lies in operations and quality management [18]. ORMS model [38, 15] was derived from operations and quality management research, which describes ORMS as set of management systems for managing losses in operational processes based on certain critical success factors. Compared to most risk management systems (RMS) theories; governance and leadership effectiveness was identified as the most critical success factor in directing the whole ORM processes. The theory was built on other ORMS success factors that were explored in OQMS literature; to include strategic planning, organizational training, performance appraisal and communication. Other factors such as implementation, monitoring and continuous improvement, and employee involvement and empowerment were equally adapted from quality and operations management literature and were applied to non-financial sector institutions [38]. The theory incorporated an ORM process into its risk management cycle. The ORM processes involve a seven-step cycle of risk definition, risk identification, resources allocation, risk plan development, and establishment of risk systems, performance evaluation and standardization of risk-related practices and procedures (11, 21, 38).

2.2 Success Factors for ORMS Implementation

This study adapted the proposed ORMS models [38, 15, 4]. These studies emphasized the use of ORMS model as an effective risk management approach. The ORMS model categorized ORMS into three implementation systems across the entire organization; top management systems, process management systems, and human resource management systems [38]. The common success factors for ORMS model implementation (see table 1) was adapted from other researchers [4, 38, 15]. The study then narrowed on those operational risk (OR) related factors; people risk, system risk and process risk [21]. Additionally, all other non-banking risk related factors were further excluded from the framework. Lastly, other factors that are considered external elements were also excluded.

Table 1: Success factors for effective ORMS Model Implementation

Model	Systems	Success Factors
ORMS	People Risk Management	1: Risk Governance
Process Risk Management		2: Risk Management Policy
	"	3: Risk Management Planning
	"	4: Risk Management Implementation
	"	5: Customized Risk Management Process
System Risk Management		6: Risk Management Training
	"	7: Risk-based Performance Appraisal
	"	8: Risk Management Culture

Note. Author's Construct (2016)

2.2.1 Risk Governance

Risk governance is the roadmap of directing organization's programs and policies at achieving sets goals and objectives [27]. Risk governance is a top management function at providing effective leadership for organization-wide risk management responsibilities. Effective risk governance represent the leadership role of executives in the implementation of ORMS [2, 3]. Leadership effectiveness is identified as a major pillar for an effective ORMS implementation [26, 27]. BCBS [6] established seven critical leadership roles and responsibilities for risk governance:

1. Commitment and support for the success of an ORM program by the board
2. Developing an organization's mission, vision and objectives
3. Defining ORM policy framework
4. Driving and communicating ORMS across the organization
5. Providing adequate resources and support for ORMS activities
6. Regular review of organizational performance, establishing appropriate levels of recognition, reward, approval and authority for risk-related performance.

2.2.2 Risk Management Policy

Risk management policies are specific results that a system aims to achieve within a time frame with resource availability [33]. Policy addresses potential sources of risk and creates employee awareness. Risk management

policy is the basic source for risk management plans and strategic resource alignment [3]. Therefore, organizational policies support, and maintain a degree of accountability towards stakeholder, and provides a measuring scale for the achievements or failures of ORMS in banks. Therefore, risk management policy is a crucial variable in the development of an operation risk management system framework for banks and financial institutions [21].

2.2.3 Risk Management Plan

Risk management planning is a basic management function involving formulation of one or more detailed risk management plans to achieve optimum risk-return balance with available resources [29]. Risk planning helps an organization chart a course for the achievement of its risk-related goals and objectives. Risk management planning is therefore, very essential to banks ORMS implementation success [8]. Risk management planning promotes co-operation and alignment with corporate communication, culture and policy objectives [28, 30]. Strategic alignment enables higher performance by optimizing the contributions of people, processes and inputs for the realization of measurable targets within risk management plans [15].

2.2.4 Risk Management Implementation

Implementation is the carrying out, or practice of a plan [15]. Implementation is the action that must follow any preliminary design or plan in order for something to actually happen [7, 10]. Implementation require a systematic monitoring and routine collection of information for these principal reasons; to learn from experience and to improve practices and activities in the future, to have internal and external accountability of the resources used and the results obtained and to take informed decisions on future initiatives [36]. The implementation of a risk management program enhances banks preparedness to deal with ORMS breaches. Part of good organizational development involves including all employees in the implementation of risk management programs and processes across the entire organization.

2.2.5 Customized Risk Management Process

Risk management process is the systematic application of risk management policies, procedures and practices to the tasks of establishing the context, identifying, analyzing, assessing, treating, monitoring and communicating risk hazards [19]. Risk management process is one of the many levers of an organization's combined assurance function for mitigating controllable and uncontrollable risk hazards [24]. The combined assurance function includes elements such as the risk, compliance, legal and internal as well as external auditing roles. These levers are related but vary in their approach; put together they provide reasonable governance assurance to any organization. Hence, they are a requirement when one evaluates the effectiveness of an organization's governance, processes and system frameworks [16]. An effective risk management process has positive influence on an organization's system performance [38].

2.2.6 Risk Management Training

Risk management training is an organized activity aimed at imparting risk related information and instructions,

in order to improve employees risk knowledge and performance at the workplace [36]. Several approaches are used to upgrade employee training need requirements, such as on-the-job training, seminars, refresher courses, coaching, job rotation and so. Knowledge-based competency trainings are recommended [8] to improve employee capability, productive capacity and performance. Employees who feel adequate often perform beyond expectation and that regular training of workers positively impacts on the quality of output, and the overall organizational performance [15].

2.2.7 Risk-Based Performance Appraisal

Employee appraisal is a method by which the job performance of an employee is documented and evaluated; and process is very useful when it provides feedback to the employee to show where improvements are most needed [39, 12]. Performance appraisal is a useful tool in determining employee training needs requirements and behavior at the workplace [38]. Past appraisals, together with other background data, will enable management to select proper persons for promotion, transfer, layoff decisions, compensation decision, career development and resource planning. Risk-based performance appraisals establish rewards and punishment for responsible risk behavior [39]. This unique attribute on risk-based performance appraisal made it a consideration in a risk management framework by Basel II [6, 32].

2.2.8 Risk Management Culture

Organizational culture is a system of shared assumptions, values, and beliefs, which governs how people behave in an organizations [5]. These shared values have a strong influence on the people in the organization and dictate how they dress, act, and perform their jobs [23]. Culture decides the way employees interact at their workplace. A healthy culture encourages the employees to stay motivated and loyal towards the pursuit of organizational goals. The culture of the workplace also goes a long way in promoting healthy competition at the workplace. The culture of an organization represents certain predefined policies which guide the employees and give them a sense of direction at the workplace [37]. The organizational culture brings all the employees on a common platform. The work culture unites the employees who are otherwise from different backgrounds, families and have varied attitudes and mentalities. The culture gives the employees a sense of unity and a corporate identity [5]. The uniqueness of risk management culture makes it a strong variable hence its inclusion in an operational risk management system framework for effective risk management culture in banks.

3. Research Methodology

This segment of the paper discusses the research design and the research instrument used for data collection. The section also presents the method of data collection and how quantifiable data from the respondents were analyzed for presentation in the next section. This study used a survey method in the collection of quantifiable data from the respondents from banks in Accra through a mailed questionnaire which is considered to be quicker and economical in survey designs [20, 9]. A total of 220 participants covering 30 banks were considered as the population of the study. Out of 220 questionnaires sent out, a total of 170 responses were retrieved after several follow-up emails and phone calls. The five-point Likert scale questionnaire used for the study; was adapted from previous studies [38, 40] with slight modifications. The main hypothesis was to investigate whether or not there

exist a positive relationship between the eight independent variables and the dependent variable, effective ORMS implementation in banks.

4. Discussion of Results

This section of the paper present and discusses the results of the study. The presentation of results in this section, follows the sequence of hypotheses development from literature and the theorized ORMS models. There are eight hypothesized propositions (independent variables): risk governance (RG), risk management policy (RMP), risk management planning (RMPg), risk management implementation (RMI), customized risk management process (CRMP), risk-based performance appraisal (RbPA), risk management culture (RMC) and risk management training (RMT) and one dependent variable: effectiveness of ORMS Implementation in Ghanaian banks.

Table 2: Correlation Matrix

	RG	RMP	RMPg	RMI	CRMP	RbPA	RMC	RMT	ORMS
RG	1								
RMP	.552**	1							
RMPg	.501**	.391**	1						
RMI	.587**	.605**	.408**	1					
CRMP	.524**	.465**	.513**	.468**	1				
RbPA	.433**	.398**	.555**	.406**	.457**	1			
RMC	.192*	.155*	.206**	.081	.187*	.177*	1		
RMT	.246**	.286**	.387**	.087	.429**	.397**	.212**	1	
ORMS	.449**	.441**	.302**	.440**	.565**	.231**	.207**	.197*	1

*$p < .05$. **$p < .01$. N = 170

4.1 Hypothesis One

Table 2 shows the correlation coefficient between the eight independent variables and dependent variable, effective ORMS implementation. The Pearson correlation test of the first null hypothesis ($H1_0$), Risk governance (RG) has no positive relationship on ORMS implementation shows that there is a significant positive relationship between risk governance factor and ORMS implementation. The estimate for the correlation was 0.449 and it was significant at an alpha level of 0.01 ($r = 0.449$, $p < 0.01$). Hence, a rejection of the null hypothesis. The result proves that risk governance has a positive relationship on ORMS implementation success.

4.2 Hypothesis Two

The second null hypothesis ($H2_0$), Risk Management Policy (RMP) has no positive relationship with ORMS, as well reveal that there is a significant positive relationship between risk management policy and ORMS implementation. The estimate for the correlation was 0.441 and it was significant at an alpha level of 0.01 (r =

0.441, $p < 0.01$). This implies that the null hypothesis is rejected. The result concludes that risk management policy has a positive relationship on operational risk management system implementation.

4.3 Hypothesis Three

The third null hypothesis test ($H3_0$), Risk Management Planning (RMPg) has no positive relationship with ORMS, indicates that there is a significant positive relationship between risk management planning and ORMS implementation. The estimate for the correlation was 0.302 and it was significant at an alpha level of 0.01 ($r = 0.302$, $p < 0.01$). Hence, the null hypothesis is rejected. The study concludes that risk management planning has a positive relationship on operational risk management system implementation.

4.4 Hypothesis Four

Furthermore, the test of hypothesis four ($H4_0$), Risk Management Implementation (RMI) has no positive relationship with ORMS, similarly shows that there is a significant positive relationship between risk management implementation and ORMS. The estimate for the correlation was 0.440 and it was significant at an alpha level of 0.01 ($r = 0.440$, $p < 0.01$). Hence, the null hypothesis is rejected. The study concludes that risk management implementation has a positive impact on ORMS implementation.

4.5 Hypothesis Five

The fifth null hypothesis ($H5_0$), Customized Risk Management Process (CRMP) has no positive relationship with ORMS likewise shows that there is a significant positive relationship between customized risk management process and ORMS implementation. The estimate for the correlation was 0.565 and it was significant at an alpha level of 0.01 ($r = 0.565$, $p < 0.01$). Therefore, the null hypothesis is rejected. This implies that customized risk management process has a positive relationship on an effective ORMS implementation.

4.6 Hypothesis Six

Null hypothesis six ($H6_0$), Risk Management Training (RMT) has no positive relationship with ORMS, correspondingly shows that there is a significant positive relationship between risk management training and ORMS implementation. The estimate for the correlation was 0.197 and it was significant at an alpha level of 0.05 ($r = 0.197$, $p < 0.05$). Therefore, the null hypothesis is rejected. The study concluded that risk management training has a positive influence on effective ORMS implementation.

4.7 Hypothesis Seven

The test of null hypothesis seven ($H7_0$), Risk-based Performance Appraisal (RbPA) has no positive relationship with ORMS, equally indicates that there is a significant positive relationship between risk-based performance appraisal and ORMS implementation. The estimate for the correlation was 0.231 and it was significant at an alpha level of 0.01 ($r = 0.231$, $p < 0.01$). Therefore, null hypothesis is rejected. The study concludes that risk-based performance appraisal has a positive relationship with an effective operational risk management system implementation.

4.8 Hypothesis Eight

Lastly, the test of the null hypothesis eight ($H8_0$), Risk Management Culture (RMC) has no positive relationship with ORMS, shows that there is a significant positive relationship between risk management culture and operational risk management system. The estimate for the correlation was 0.207 and it was significant at an alpha level of 0.01 ($r = 0.207$, $p < 0.01$). Therefore, the null hypothesis is rejected. The study concludes that risk management culture has a positive influence on ORMS implementation. The results (H8) confirm the claim by other researchers [31, 36]. The R-square value of 0.402 (40%) of the variation in the dependent variable ORMS implementation was explained by the independent variables RG, RMP, RMPg, RMI, CRMP, RMT, RbPA and RMC. The correlation coefficient between the dependent and independent variables was 0.634 (see table 3). This implied a moderate relationship and predictability among the independent on effective ORMS implementation in Ghanaian banks.

Table 3: Summary of the Regression Model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.634[a]	.402	.372	.120

a. Predictors: (Constant), RMC, RMI, RMT, RbPA, RMPg, CRMP, RMP, RG

Analysis of variance (see table 4), the significance level between the dependent variable, and the independent variables was 0.000. This is less than an alpha level of 0.01, hence, a rejection of the null hypothesis. The study therefore, concluded that there is a significant interrelationship among the eight factors of an effective ORMS implementation.

Table 4: ANOVA

Model[a]		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.570	8	.196	13.525	.000[b]
	Residual	2.336	161	.015		
	Total	3.906	169			

a. Dependent Variable: ORMS

b. Predictors: (Constant), RMC, RMI, RMT, RbPA, RMPg, CRMP, RMP, RG

5. Conclusions

The study affirmed the role of corporate leadership in driving a successful ORMS implementation in Ghanaian commercial banks. The results affirm the claim their studies [4, 38] that corporate risk management responsibility primarily rest on leadership. The Pearson correlation results shows that Risk Governance, Risk Management Policy, Risk Management Planning, Customized Risk Management Process, Risk management Implementation, Risk Management Training, Risk-based Performance Appraisal and Risk Management Culture positively correlated with effective ORMS implementation. All the eight factors have a strong positive correlation among themselves. Therefore, all the eight independent variables were considered to be critical for

effective ORMS implementation in the respondents' banks.

6. Recommendations

This study recommends the adoption and application of an integrated ORMS model for Ghanaian banks in line with the system's theory [4]. A bank is considered a network of systems and therefore, required customized risk management processes in dealing with OR related hazards. From the results obtained, "customized risk management process" was considered the first and the most important factor for an effective ORMS implementation. Hence, banks should design and use their customized risk management processes to recognize, prioritize and solve risk-related hazards. Banks should regularly review their customized risk management processes and communicate same to all employees of the bank. Most internal controls systems and operations management processes have become dysfunctional [11, 13]. Furthermore, top management of banks should identify KPIs for ORMS implementation and undertake such ORM activities to enhance ORMS performance throughout the bank. Leadership of these banks should invest into the development and implementation of ORMS programs, policies and processes in their banks. The board should also integrate and embed ORM culture and risk planning into the entire philosophy and business processes of the banks. Senior management should use risk-based performance appraisals to plan improvements in ORM implementation. Promoting a risk management culture, corporate risk appetite and a balance between risk and reward is a function of good risk governance [22, 21]. Also, the banks should develop a comprehensive ORM plan consistent with an ORM policy for a strategic implementation. Effective Operational risk management planning and a strategic risk policy alignment are necessary for effective ORMS implementation. Based on the results, integrated ORMS models should be adopted by the banks. A comprehensive and integrated system-based approaches are more effective in the identification, controlling and managing daily operational risk hazards. There should be policy directive towards a more integrated ORMS performance processes for ORM in Ghanaian banks.

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