RISK ANALYSIS MODEL PROPOSAL

for

Company XYZ

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1.0 INTRODUCTION SUMMARY

Company XYZ, a property and casualty insurer, is seeking to improve their current Operational Risk Management (ORM) program. A recent assessment has shown an increased amount of operational losses, suspected to be linked to fraudulent claims. To better understand the environment within the current program, it's imperative that the proposed framework identifies, assesses, controls and mitigates risks that are causing loss (Girling, 2013). A more robust and agile data analytics strategy will help the Special Investigations Unit (SIU) identify and prioritize suspected fraudulent claims, most notably the automobile accident personal injury claims. With a more organized data structure, Company XYZ will be able to visualize their respective internal loss data, as well as track and prepare for external loss, as such, fluctuates independently from the organization. Consolidating such data assets into one specialized platform will allow for immediate analysis, optimization and data-driven decision making.

Company XYZ requires a dynamic and comprehensive operational risk management (ORM) framework that includes enterprise risk management (ERM) elements which address data analytics and visualization, risk identification, data loss management. The framework would allow for statistical and scenario-based analysis, data optimization, measurement and modeling, key risk indication and evaluation. These functions will detect, display and rank fraudulent claim data based upon prescribed parameters, present appropriate mitigation protocols, connect employees more closely with organizational risk culture and values and allow for time-sensitive reporting.

2.0 ESTABLISHED PROGRAMS, POLICIES, STRATEGIES, AND PRACTICES

Company XYZ utilizes a data analytics driven risk management process for market, credit and insurance risks, but their understaffed SIU has fallen behind in keeping up with the operational risk assets. Improving analytical capabilities will organize and display claims in order of suspicion and will optimize the productivity of the SIU. To further streamline the process, all risk data will be centrally housed in a database platform that allows for secure and quick access throughout the organization. Due to high volumes of claims that have been flagged, it's crucial that the organization prioritizes their resources towards identifying and assessing those suspected fraudulent claims more closely, control the most damaging assets and mitigate any loss accrued.

3.0 RECOMMENDED TECHNIQUES AND PRACTICES

Effective governance will appropriately establish a solid structure to the programs framework, allowing for fluid communication and documentation transfer between entities, as well as roles and responsibilities of all team members (Girling, 2013). Company culture and awareness plays a vital part in improving the operational risk management program. Members of the organization must understand the goals of the organization, as well as the nature of the challenge they currently face. Establishing a departmental awareness bulletin will comprehensively layout key points of interest for each division and will reduce potential risk identification time. Improvements in technique and practice that should be considered include scenario analysis, key risk indicators and measurement and modeling (Girling, 2013). To stay proactive in operational risk management, a systematic approach must be followed to ensure that the teams within the organization are well aware of the dynamic nature of each and every scenario encountered. Scenario analysis introduces the 'worst-case scenario' preparation work

and helps identify such occurrences and their respective calls to action. Key risk indicators are crucially important for the situation Company XYZ currently sits in, as this concept helps predict the changes in risks, which creates a proactive and preventative environment (Girling, 2013). Measurement and modeling can be conceptually beneficial for the organization, as their techniques and practices will be evaluated for efficacy and accuracy, as well as replication. To remain consistent with current organizational structuring, the reporting will continue to travel from each sector to the Chief Risk Officer for review and approval.

3.1 SUPPORT FOR ENHANCEMENT OF RISK ASSESSMENT POTENTIAL

A robust data analytics enhancement will bolster the operational risk management program at Company XYZ. In order to optimized such an endeavor, the organization must understand their current situation, regarding data assets, and understand the future of those assets. Predictive analytics techniques, machine learning, and artificial intelligence can help efficiently build and mine large and complex data sets that combine traditional Basel operational risk loss data with other data sources, including transaction data, non-transaction data, and external data (Deloitte, 2019). By comprehensively analyzing and optimizing claims, Company XYZ can more efficiently focus on suspicious files, identify trends and deter future fraudulent claims before they become losses. Enhancing risk assessment techniques will not only benefit the organizations ability to provide the best service at the best rate, but will also benefit their customers with expedient care.

4.0 ENTERPRISE RISK MANAGEMENT TOOLS

OnSpring Risk Management Software

This risk management software is scalable and will meet the demands of the organization, at every phase of growth. The Onspring software increases strategic effectiveness by identifying and documenting risks and categorizes such risks in terms of impact, likelihood, velocity, score, expected loss and criticality (OnSpring Technologies, LLC, 2019). The risk logs and registries store history data which helps identify trends, maintain regulatory standards and assist in internal reviews and audits (OnSpring Technologies, LLC, 2019).

The platform granularity contextualizes the data, increases asset visibility and sets the foundation for various forms of visualization. The risk mitigation plan feature, allows the user to document policy-driven procedures for various points of action, in the event of an incident or loss (Onspring Technologies, LLC, 2019). Real-time reporting provides timely insights, while dynamic documents include information from several applications across the platform, all of which improves response time and risk management efficacy.

Analytical Solver

By incorporating an agile data analytics software, critical data-driven decisions can be made with confidence, accuracy and speed. The Analytical Solver is an advanced cloud-based software that offers predictive analytics & forecasting, data mining, simulation/risk analysis, decision trees, optimizations, AI/Machine Learning, modeling and data visualizations (Frontline Systems, Inc., 2019). These features help optimize, simulate and mine data from key sources, providing a deeper understanding of the data values and potential areas of growth and loss (Frontline Systems, Inc., 2019). The interface utilizes a simple spreadsheet display and

navigation is incredibly fluid and user friendly, with its point-and-click application toggle options.

SAS OpRisk

The SAS OpRisk Solution software assists organizations in managing and summarizing loss data, fitting models to loss data using highly sophisticated predefined statistical models, of which includes key risk indicators (KRIs) and computes value at risk (VaR), using simulation techniques (SAS Institute Inc., n.d.). The tool also has the capability to address operational loss tracking, establishing risk, performance, and scale indicators, as well as control assessment scoring. To assist in risk management and modeling, the tool offers a vast collection of external loss data, of which can be leveraged to understand loss events from a broad and global perspective (SAS Institute Inc., n.d.). Company XYZ will be able to identify, collect and analyze loss data more effectively by identifying the impactful factors within the data and customizing their operational environment to meet those indications.

4.1 SUPPORTING EVIDENCE AND DOCUMENTATION

OnSpring Technologies mentions that their software empowers business users to innovate and solve problems for themselves by enabling them to identify, evaluate, prioritize, document, manage and respond to key risks and tracking history activities (OnSpring Technologies, LLC, 2019). Several companies have attested to the practicality of the software, one being Louisiana Pacific (LP Building Products), a wood product engineering firm. LP mentions that the software has given their organization greater discipline in the audit process, improved project clarity and control and that the interface is user friendly (OnSpring Technologies, LLC, 2019).

Company XYZ will manage their risks more effectively and reduce loss, as well as improve internal audit and regulatory compliance efforts by utilizing the risk functions within the software.

The Analytical Solver software provides Company XYZ with several dimensions of analytical power. Analytical Solver is able to accurately and efficiently analyze, optimize and visualize the data with high levels of granularity. The software is robust and precise, as a case study reveals its ability to quickly summarize 120 Million flight records (100,000 records (0.1%) ran as a test, returned results in a fraction of a second 59% accuracy) with speed and detailed specification (Frontline Systems, Inc., 2019). As Company XYZ grows, their analytical needs are met with the Analytical Solver software.

The SAS OpRisk software is a highly sophisticated and customizable tool that will greatly benefit Company XYZ. The software specializes in data loss and provides several capabilities that help the users navigate statistical models, KRIs, evaluation and diagnostic features. In addition to its statistical functions, SAS OpRisk effectively assists organizations achieve and maintain regulatory compliance (SAS Institute Inc, n.d.).

4.2 COMPARE AND CONTRAST

Company XYZ has narrowed their focus to operational risk management, data analytics and visualization and loss data. The three ERM tools will each, in their own right, benefit and assist Company XYZ in achieving these organizational goals. However, each software package compliments the other by addressing key elements of concern for Company XYZ, of which cannot be fully serviced by just one of these tools. OnSpring is an outstanding risk management cloud-based, no-code platform, that provides the transparency and coordinating power Company XYZ desires, but the software lacks analytical features. Analytical Solver is a powerful

analytical package that provides actionable insight, data clarity and value, as well as visualizations, but lacks risk management capabilities. SAS OpRisk is a valuable operational loss data and regulatory compliance software, of which can help Company XYZ identify areas vulnerability and value.

SAS OpRisk offers the most comprehensive product, when compared to the other two, as it provides analytical features, risk management capabilities and data loss identification and modeling. However, Company XYZ could build a framework with areas of functional overlap, by utilizing multiple platforms, which would strengthen and extend their capabilities within each pillar of operational concern.

5.0 RISK MANAGEMENT VISUALIZATION

Visualization techniques widely used throughout the industry today, are techniques that move beyond the idea of tabular and planar representation (Open Risk, 2018). Visualizations can transform complex datasets into a simple and precise interactive graphic. By uncovering more detailed dimensions of the data, organizations will be more suited to address areas of concern within their risk management frameworks. Such techniques include prioritizing, highlighting, communicating relativity and maintaining a current and dynamic strategy (SharpCloud, 2016). Innovative techniques can add layers of data information to help Company XYZ understand the relationships between specific elements and how those elements contribute to their areas of concern.

5.1 ORGANIZATIONAL RISK GOALS AND SUPPORTIVE TECHNIQUES

Prioritizing risks involves ranking risks based upon their probability of occurrence SharpCloud, 2019), and/or the overall amount of calculated suspicion. In the case for Company XYZ, they have already incorporated a risk ranking measure for their claims file data, but adding a graphical representation to such data will bring the information to life. For example, matrix visualizations will display each observation and will provide context to suspicious claims that are more likely to occur and their associated consequences (Appendix A). Company XYZ will then be able to quickly identify these characteristics and put into place measures to management such elements.

Highlighting involves displaying the context of risks and the strength of the relationships between the risks and the overall operation (SharpCloud, 2019). The risks Company XYZ faces are all incrementally different in terms of scale and impact, while that being the case, highlighting the strengths of risk with each claim will help the organization focus their efforts in deterrence and mitigation towards claims that pose the biggest threat. This technique can be communicated well with the Bow-Tie method. "The bow-tie design gives a brief overview of the current situation, outlining all plausible scenarios by highlighting the flow of cause, control and consequences. The shape of the diagram helps distinguish the proactive and reactive elements of risk management" (SharpCloud, 2019) (Appendix B).

Communicating relativity involves displaying changes in risk outcome, by altering the values of the incorporated risks. This technique is similar to scenario based analysis, as it engages the data by adjusting the appearance of specific elements, to allocate for such instances that they occur in reality. It is important for Company XYZ to visualize both the threshold for

and height of risk events, as their risk management framework should develop and plan for as many variations of data as possible. Decision tree visualizations can help Company XYZ establish a risk management strategy using this technique (Appendix C).

Maintaining a current and dynamic strategy involves ensuring that the data is reflecting the most current and accurate information available. Visualizations are an effective means to create a creative display for data values and their respective relationships, monitor activity and implement changes, however, without current data being the lifeblood of the visualization, they are as good as foresight driven stories. Company XYZ's ability to utilize their data visualizations and transition from one narrative to another, will depend on their ability to maintain a current and accurate account of their data.

5.2 VISUALIZATION PROPOSAL

Based upon Company XYZ's current environment, it is essential that their risk management visualizations offer the most detailed illustration to ensure that they are able to derive and utilize insights that will ultimately help them make data-driven, risk mitigating decisions. Visualization techniques that will provide Company XYZ with such ability include prioritizing, highlighting, communicating relativity and as always, maintaining a current and dynamic data strategy.

These aforementioned techniques have the reach and flexibility to uncover underlying stories within the data and provide such narratives with precise and visually pleasing images. As the company adapts to the market, the organizational environment will evolve as well, to which will be met with current and accurate risk visualizations. Examples of such platforms include SharpCloud, Power BI Desktop, Qlikview and Open Risk. Each platform has their areas of strengths and provide the user with various options for visualization types.

6.0 CONCLUSION

The recommended techniques, methods and tools will allow for statistical and scenario-based analysis, data optimization, measurement and modeling, key risk indication and evaluation. These functions will detect, display and rank fraudulent claim data based upon prescribed parameters, present appropriate mitigation protocols, connect employees more closely with organizational risk culture and values and allow for time-sensitive reporting. With the desired goals in mind, Company XYZ should consider implementing SAS OpRisk and a visualization software package. However, it is also crucial to mention that implementing multiple software tools and platforms can be beneficial on many fronts of protection and utility, if the organization requires more coverage or additional measures are needed.

Company XYZ requires a dynamic and comprehensive operational risk management (ORM) framework that includes enterprise risk management (ERM) elements which address data analytics and visualization, risk identification, data loss management. By incorporating and continuing to tune and monitor a framework such as the recommended, the organization can seal their current vulnerabilities and the associated loss and when future threats present themselves, they'll be ready.

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