Third Star Financial Services Enterprise Data Management Plan

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Introduction

Due to organizational structuring, multiple acquisitions and a presence of over 15,000 locations worldwide, a fully integrated and comprehensive data management architecture framework is an effective and agile plan to address the data management issues and declining market value (24% to 18.1% from ’08-11) Third Star Financial (TSF) is currently experiencing. Through specialized functions within the data management framework and their respective environmental elements, the framework will allow the needs of the stakeholders and customers to be met in terms of information organization, availability, security and quality (DAMA International, 2009). The goal of this project is to identify the need and value of an enterprise data management plan, to implement the plan and evaluate the impact. To assist TSF in resolving their IT and data system discrepancies, the data management strategy plan will focus on capturing data assets, uniquely identifying data context, improve quality, security, cost, consistency, and align the data efforts with business needs (DAMA International, 2009). Through the implementation of security protocols, authorization procedures and established access levels, TSF will protect the customers private personal information and financial data from malicious attacks and fraud attempts. By adhering and understanding applicable regulatory compliance laws and rulings, TSF will not only remain within industry standards, but will also develop the ability to expand into new sectors of business with the confidence of security and business intelligence. This project and plan implementation process is expected to take approximately ten months, of which includes an assessment and establishment phase, standards and policies phase, external and internal recommendation phase, modeling phase, evaluation phase and training phase.

Current Enterprise Data Management Assessment

TSF has established only but a few enterprise data management components, of which include data security, document and content management and data warehousing. Data security, in some strength, must be operating within TSF, as there are no reports of regulatory violations or security breaches. However, due to the various conditions of other components and the organizations current status, security will need to be evaluated and improved, as data value and volume increase. TSF does have a document and content management program in operation, but is currently on utilized for operations reporting and is departmentally partitioned. TSF's current data warehousing and storage structures are disperse and unsynchronized. This makes data integration and accessibility difficult. TSF utilizes two database management systems. These systems can work together, but performance may suffer due to each systems required resources. The company also uses UNIX/LINUX and Microsoft Windows operating systems, with differing associated equipment. As is, the TSF enterprise data management program is unable to support the needs of the company for both data in storage and data in motion. Overall, the current framework lacks planning, structure, synchronization and monitoring (DAMA International, 2009).

TSF does not incorporate several components of enterprise data management, of which include data governance, data development, reference and master data management, business intelligence management, meta-data management, data quality and integration. These are fundamental concepts and functions within the framework and are absolutely necessary to organize and optimize current and future data assets. Implementing a Data Governance system will establish a level of authority and control over the management of data assets (DAMA International, 2009). By establishing a Data Governance Council and its various departmental functions, a board will share responsibility and expertise regarding the reviewing, validating and approving policies, functions and operational

standards. The Data Governance system must be understood as a perpetual process (DAMA International, 2009), of which is in need of persistent and careful maintenance and adjustment, to adhere and maintain synergy along with the organizational mission. The ability to properly store and access data and assess its quality are key aspects for business utilization, while the security of such data ensures that it cannot be exploited for malicious purpose (Globalscape, 2018).

Current Enterprise Operations

Operationally, TSF has not established a data strategy nor data stewardship program, which results in intuition-driven business decisions, ultimately declining market value. Business reports are lacking data insights and enterprise integration. Agent-to-Customer rapport is declining due to poor data quality, data organization, accessibility and high network latency. The lack of internal asset management has hindered the employees ability to proficiently exploit key points of value and number or concatenate customer data and accounts. The implementation of the advised strategy will consolidate the reporting system, develop cross-functional communication and establish corporation-wide data congruency and relevance. Without a governing framework, TSF will not be operationally able to expand into the mobile market, nor maintain success within its current markets.

Currently, Third Star Financial is a Level 1 maturity, given their organizational inconsistencies, instability and disorganized structuring, of which none are repeatable (McSweeney, 2013). By embracing a full system integration and data management structure, TSF will grow to a greater maturity level, increase efficiency reduce costs and reduced risk.

Data Models

The conceptual data model (Appendix A) lays out the basic organizational entities specific to Third Star Financial, while the logical data model (Appendix B) displays the relationships between the various entities and their associated attributes. The ‘Customer’ entity is necessary because Third Star

Financial is uncertain on the number of customers they have, in being so, they also do not have accurate or quality data on those customers. The 'Customer' entity will house all customer data and will serve as a specific location for storage and retrieval. The 'Account' entity is necessary because Third Star links accounts to their customers to track and group transactions. There is also a need for the 'Transaction' entity because transactions are continuously occurring and need to be protected and logged in the most respectful and accurate manner to avoid mismanagement. The 'Agent' entity is necessary because currently Third Star has no single source of agent data and their systems include several instances of duplicate data values. The 'Agent' entity will be a specific location to store agent data and will assist in linking customers to the appropriate regional agent. Lastly, the 'Employee' entity is necessary in order to store Third Star Financial employee data into the architecture of the framework, of which is dependent on their relative authority and access level.

Improving Current Technology For Data Management Strategy

Two technologies worth incorporating into the TSF Data Management framework are the Oracle Autonomous Data Storage Cloud technology and ZoomData data integration tools. The benefit of establishing a robust, synchronized and specialized data storage technology include improved accessibility, integration and security. Oracles Autonomous Data Storage cloud technology is a self-automated database system that uses machine learning to perform tasks such as tuning, patching, upgrading, monitoring, and securing the database (Oracle, n.d.). TSF must collect, protect and maintain highly sensitive data assets and the capabilities of Oracle provides structure, security and organization that is necessary to accomplish such a task. Automated security protocol updates ensure the protection of the data, enforce regulatory compliance guidelines and help maintain data encryption. Due to its scalability, Oracle is an excellent tool to help TSF effectively management their

data storage needs. While the automated nature of Oracle greatly reduces the need for technical expertise, important considerations should include licensing costs and maintenance fees.

The ZoomData dashboard provides accurate analytical presentations, as they relate to business intelligence, improving the timeliness of an organizations decision-making abilities. The sophisticated nature and agile function of a data integration tool enforces high data quality, provides various analytical processes and unique visualizations. The embedded analytics feature of the tool allows for the data to transfer to any application, making synchronization easy and gives several filter options, which presents the data in a very specific light (ZoomData, 2019). This tool will greatly assist TSF in developing a business model and its associated decisions, by revealing and presenting actionable insights that are data-driven. However, due to the broad spectrum of functions within the tool, some level of training will be a crucial aspect of exploiting the advantages and insights of ZoomData.

Both tools will improve aspects of data quality management, data development, database operations, security, data warehousing and business intelligence management. By understanding how to optimize data organization, protection and analysis, TSF can begin to more efficiently provide service to their customers, while also looking towards growth and innovation in the future.

Operational Improvements

Implementing such recommendations will synchronize the various systems and data assets into a cross-functional, transparent, secure and uniformed structure. These aspects will improve accessibility, efficiency and help establish data definitions and insights.

Internal stakeholders at TSF have been experiencing difficulties in accomplishing their tasks and growing professionally, ultimately leading to a high employee turnover. This plan will establish a more productive work environment and bring new skillsets to the workforce. External stakeholders, vendors and competitors, will be either supportive or unsatisfied with this particular project. Vendors

will be pleased to meet the needs of the corporation, extending their reach of business, while competitors will be watchful of the corporations actions, as they too are always searching for the competitive edge.

Ethical Considerations For Technological Improvements

While operating in an environment that holds personal identifiable information (PII), security protocols and regulatory compliance guidelines must be monitored and enforced to avoid violating the established policies and regulations. Such rulings and guidelines may include The Gramm-Leach-Billey Act, The Sarbanes-Oxley Act and The Payment Card Industry Data Security Standard (PCI DSS) (Arctic Wolf, 2018). More on these regulations in the Financial Restrictions and Ethics Standards section. To govern data access control, a roles-based access control (RBAC) approach should be utilized to ensure that the proper individuals or groups, based upon their specific roles and functions, have access to their respective data assets and the ability to manipulate such assets (Berson and Dubov, 2011). Only personnel who have been authorized to view, manipulate and present PII and other data should have access to such assets, so to enforce security protocols and privacy concerns.

Implementation Plan

The implementation plan, should TSF choose to accept, is outlined in Appendix C, which displays plan phases and the objectives of such phases. Appendix D displays a Gantt chart, used to communicate the project timeline and the associated tasks.

Management and Technical Expertise

By establishing managerial and governing office jurisdictions at the beginning of the project, the project managers will be able to oversee all project phases, tasks and evolutions that take place throughout the projects lifecycle. These processes will require hiring significant amounts of experienced and specialized staff to effectively carry out the responsibilities of the office and the

project plan; as levels of experience and knowledge vary person to person, the need for such personnel are to invoke a collaborative environment to accomplish the plan effectively. Initially, these required roles can be filled by current, qualified TSF employees, while the remaining roles will have to be outsourced. Vendor SMEs will be required, from both Oracle and ZoomData, in order to effectively roll out the tools efficiently and completely. Such roles will include the Chief Enterprise Architect, Chief Information Officer and data steward roles such as analysts, database administrators, integration specialists, security managers and business intelligence specialists, whom will be the subject matter experts responsible for evaluating the management and performance of the plan and reviewing, validating and approving standards and policies (DAMA International, 2009). Managerial, operational, stewardship and functional experts will be required to successfully implement, evaluate and maintain the enterprise data management plan. Training programs can either be contracted or internally initialized, as it's dependent on staffing and experience. However, as the program becomes operationalized and is successfully accountable to its purpose, internal training programs can help develop employees develop technical expertise, of which provides TSF with several avenues of cross-functional staffing configurations. Throughout the duration of the project, TSF will remain operational. Although the dynamic nature of the project is highly invasive, TSF has survived this long with an unstructured framework. TSF must do their best to remain operationally and financially afloat during the plan rollout, as shutting down disrupts the delivery of services to the needs of their customers. As each project phase is completed, it will be integrated into enterprise operations, in order to soften the growing pains. Although TSF has expressed a desire to expand into the mobile sector, this project plan recommends and supports the venture at another time. Due to the organizations declining market value, crippling enterprise data management framework and overall lack of organizational synchronization, the expansion into the mobile sector would only hinder the

progress of implementing a complete overhaul for their current framework. The agile nature of mobile capabilities will undoubtedly increase market value in the future, but ensuring the organizations data management framework is well-established and maintainable, is of the utmost importance currently. Once the plan proves to be a success and the evaluation and training phases have come to a close, an additional consultation and project plan will be conducted with the goal of delivering mobile capable services.

Financial Restrictions and Ethical Standards

Laws and restrictions that TSF should remain attentive towards, in regard to of their procurement and custody of private financial information, include, but are not limited to, The Gramm-Leach-Bliley Act, The Sarbanes-Oxley Act (SOX) and Payment Card Industry Data Security Standard (PCI DSS). These rulings enforce protective measures that guard the sensitive nature of customer data. Specifically, The Gramm-Leach-Billey Act requires financial institutions – companies that offer consumers financial products or services like loans, financial or investment advice, or insurance – to explain their information-sharing practices to their customers and to safeguard sensitive data (Berson and Dubov, 2011). This enforces a level of responsibility and respect towards customer data, while also restricting organizations from abusing their access to such data. The Sarbanes-Oxley Act establishes requirements for the secure storage and management of corporate-facing, electronic financial records (Berson and Dubov, 2011). Adhering to this ruling deters malicious cyberattacks and addresses proper security and privacy protocols. The Payment Card Industry Data Security Standard (PCI DSS) involves setting requirements for organizations that store, process or transmit cardholder data (Berson and Dubov, 2011). Security managers, executive level officers and legal consultants should spend some time reviewing, validating and approving all established standards, policies and operational procedures to ensure that TSF remains within the guidelines of the aforementioned

regulations and restrictions, as well as any others not mentioned in this report. As the focus narrows, data security procedures will require more attention and further authentication and administrative strategies. Such security disciplines involved in this include the 3As (authentication, authorization, administration), encryption, digital signatures, confidentiality, data integrity, privacy, accountability, and virus protection (Berson and Dubov, 2011).

TSF should place emphasis on operating within the scope of the recommendations presented by the Federal Financial Institutions Examination Council (FFIEC) which abates cybersecurity risks by recommending multi-factor authentication to identify authorized users (Arctic Wolf, 2018). This principle will ensure that TSF employees and customers understand the basis for the necessary security procedures and how they can continue to safeguard their own information and access level. Without such respect and adherence, TSF and the integrity of data assets may be vulnerable to compromise.

Conclusion

Third Star Financial Services has risen from a small operation, with a crippling infrastructure, to a multifaceted organization with goals of growth. This goal will be accomplish with the implementation of this enterprise data management plan, which meets and exceeds current requirements. TSF will not only be a more data-driven enterprise with more technically experienced staffing through the implementation of the discussed plan, but they will become an organization that is fully capable of delivering services to their customers with increases in network bandwidth, synchronization and accessibility with confidence and quality assurance that respective data assets are well maintained and safe. Future solutions may include Customer Relationship Management (CRM), which can help TSF better understand the behaviors and desires of their customers in order to meet their business needs more comprehensively.

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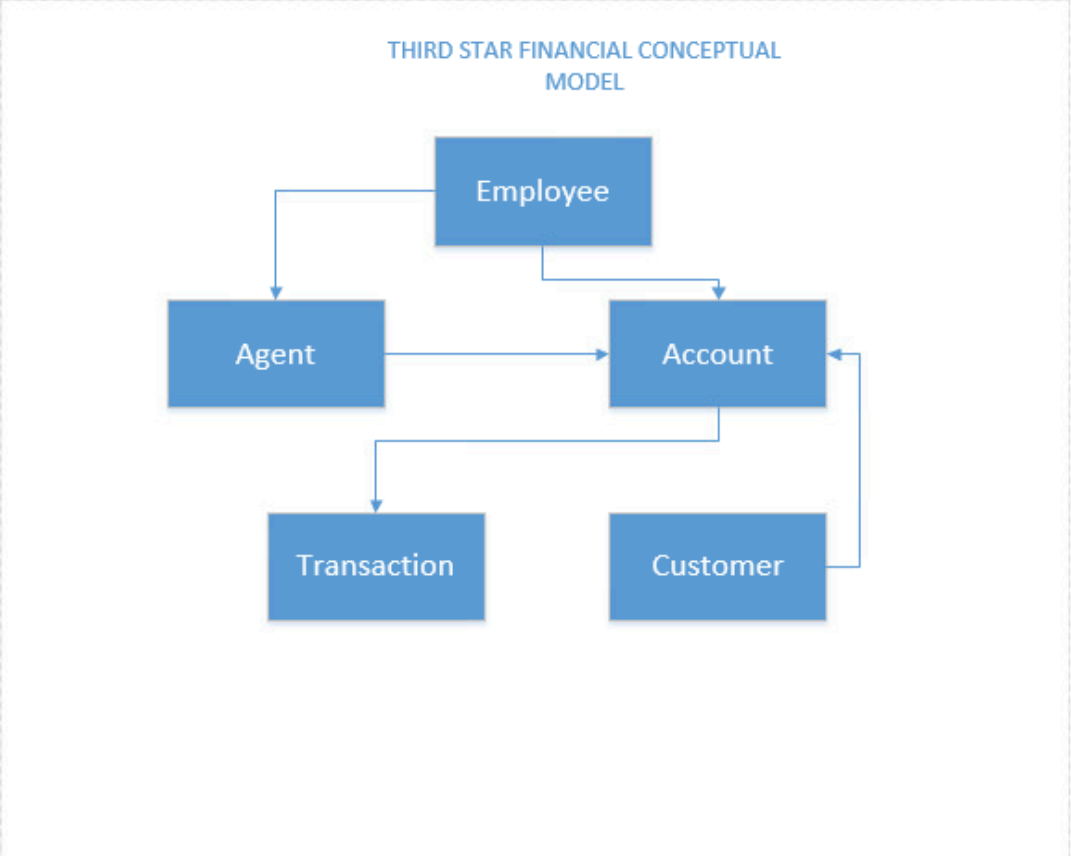
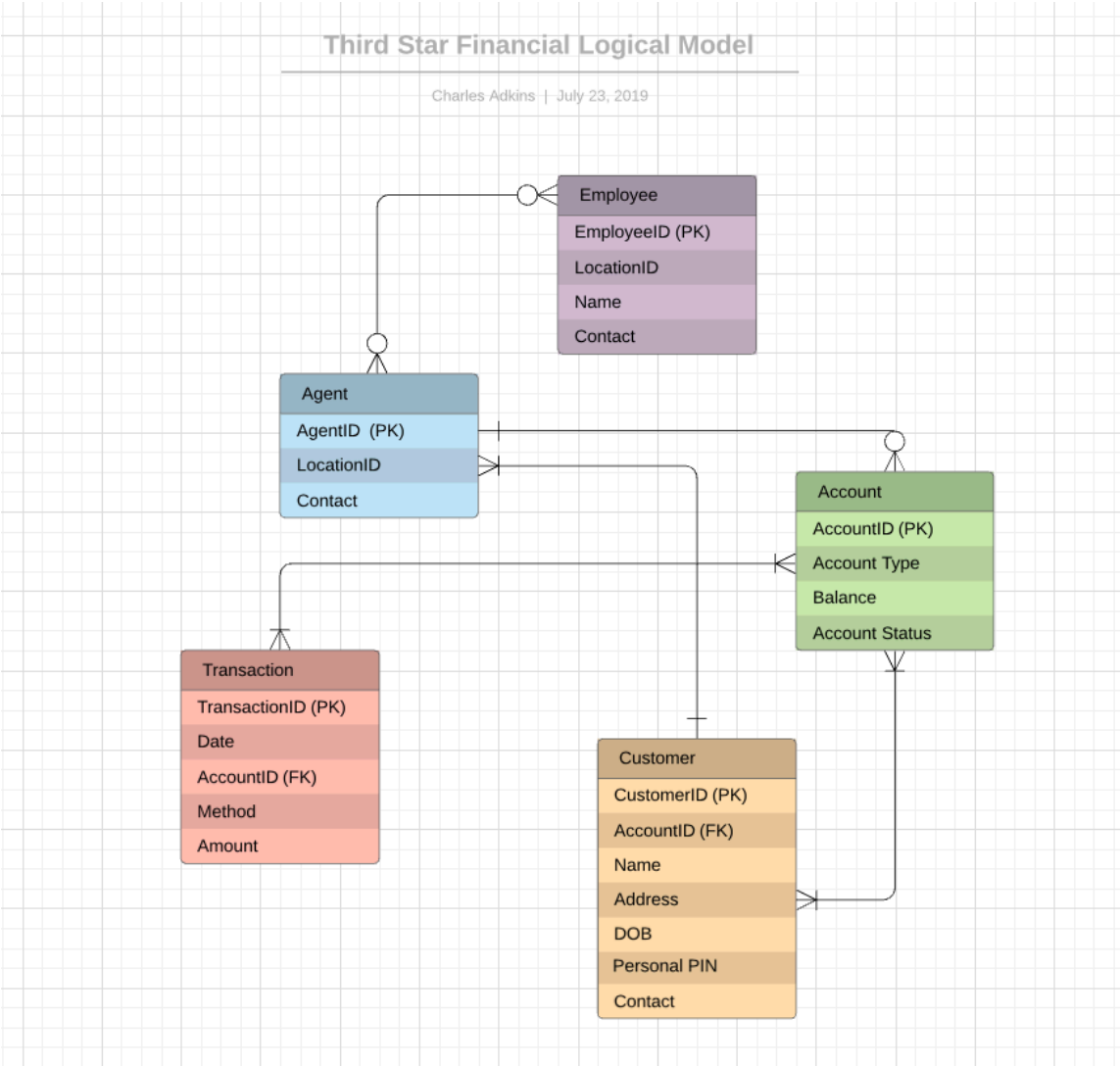
Appendices

Appendix A: Conceptual Data Model



Appendix B: Logical Data Model



Appendix C: Implementation Plan Outline

Phase One: Assessment and Establishment Phase (Paolini, 2016) - **70 days**

Objectives:

1. Establish Data Governance Office and Departments
   - A. Departments
     - a. Data Governance
     - b. Data Architecture
     - c. Data Integration
     - d. Business Intelligence

2. Implement Data Governance Framework
   - A. Determine staffing roles and responsibilities
   - B. Develop authorization protocols

Phase Two: Standards and Policies Phase (DAMA International, 2009) - **40 days**

Objectives:

1. Incorporate security and regulatory policies
   - A. Security Framework
     - a. Perimeter, Network, Host, Application, Data Security
   - B. Access Management
     - a. Authorization
     - b. Confidentiality
     - c. Integrity
     - d. Verification
     - e. Auditing and Accountability
     - f. Availability
     - g. Security Management

Phase Three: External and Internal Recommendations Phase - 40 days

Objectives:

1. Determine Enterprise Data Definitions
   - A. Launch Reference Data Model

2. Develop Meta-data Management System

Phase Four: Modeling Phase - 40 days

Objectives:

1. Launch Data Storage Technology
   - A. Oracle
2. Launch Data Integration Tool
   - A. ZoomData

Phase Five: Evaluation Phase - 50 days

Objectives:

1. Establish preferred work practices
   - A. Business Intelligence
   - B. Analytics Reporting

Phase Six: Training Phase - 40 days

Objectives:

1. Data Governance Departmental Training

Appendix D: Project Timeline Gantt chart

Project Name	Project Duration (days)	Project Start Date	Project End Date
TSFS Enterprise Data Management Plan	287	8/1/2019	5/14/2020

Phase ID	Task Description	Task Duration (days)	Start Date	End Date
1	Establish Data Governance Office and Departments	40	8/1/2019	9/10/2019
1	Implement Data Governance Framework	30	9/11/2019	10/11/2019
2	Develop policies and standards	40	10/12/2019	11/21/2019
3	Determine Enterprise data definitions	20	11/22/2019	12/12/2019
3	Provide Meta-data Management System	20	12/13/2019	1/2/2020
4	Launch data integration and storage technology	40	1/3/2020	2/12/2020
5	Establish preferred work practices	50	2/13/2020	4/3/2020
6	Data Governance training	40	4/4/2020	5/14/2020