

Streamlining Data Management in Salesforce: From Fragmentation to Centralization

Uday Kumar Reddy Gangula*

Citation: Gangula UKR. Streamlining Data Management in Salesforce: From Fragmentation to Centralization. *J Artif Intell Mach Learn & Data Sci* 2025 3(3), 2783-2789. DOI: doi.org/10.51219/JAIMLD/uday-kumar-reddy-gangula/584

Received: 03 July, 2025; **Accepted:** 18 July, 2025; **Published:** 20 July, 2025

*Corresponding author: Uday Kumar Reddy Gangula, USA, E-mail: ukgangula@gmail.com

Copyright: © 2025 Gangula UKR., This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

ABSTRACT

Organizations can't get a complete view of customers and operations due to data silos that exist between their different systems and applications and Salesforce instances. Because of this, there is a lack of personalization organization and strategic approach. The fragmented data problem within the Salesforce ecosystem poses significant business risks. The document outlines a data consolidation approach that demonstrates how Salesforce Data Cloud and MuleSoft enable real-time customer 360 creation. The document provides implementation best practices and changes management considerations together with key enablers which include data governance and integration and compliance. Organizations need to simplify their operations to extract maximum value from their Salesforce technology investments through unified data platform integration.

Keywords: Salesforce, Data Centralization, Data Fragmentation, Customer 360, Data Governance, MuleSoft, Data Cloud, Integration Strategy, GOVSF8 Framework, CRM Systems, Data Management, Digital Transformation

1. Introduction

A. Salesforce era's data challenge

In the digital economy, where data is abundant, most organizations struggle to extract value from their information because the various pieces of data are stored in hundreds of unrelated systems. Most businesses today are increasingly dependent on Salesforce for data to grow their business, but not enough effort is being put into the integration of strategies. The execution of data strategy with emerging technologies has an impact on organizations' performance and decision-making capabilities¹. Poor decision-making, inefficiencies and inconsistent customer profiles are the result. Without data stored in a central repository, Salesforce's Customer 360 is like an unkept promise.

B. Fragmentation vs centralization

Data fragmentation is the phenomenon where data is split into multiple pieces and is distributed across different systems, including Salesforce Clouds, legacy systems and external

systems. The fragmented data environment creates challenges for delivering unified customer experiences while restricting strategic data utilization². A single data architecture, such as a data lake or data warehouse, enables firms to consolidate different sources into one system of record. The integration process enables organizations to improve their analytics capabilities, decision-making processes and business operations³.

C. Purpose of this report

This report looks at problems of Salesforce data fragmentation and how to make it centralized. It explains how technologies such as Data Cloud and MuleSoft, backed by effective governance and integration best practices, can help organizations develop a single data foundation and achieve maximum return on investment for Salesforce.

2. Data Fragmentation Is a Serious Issue in Salesforce

A. Understanding the problem

- Academic research now shows that marketing ecosystems

have become fragmented because digital channels operate independently from each other and data pipelines are not well-coordinated. Business units that lack common standards and integration strategies create inefficiencies and inconsistent messaging². This causes the data to be the same as already in the system: inexact, mismatched and incomplete. This occurs more frequently when processes are manual, outdated or integrations are not connected.

- It is difficult to obtain a single view of the customer because of these silos. This leads to delays, errors and guesswork. Cross-functional teams do not have visibility on shared metrics to collaborate and respond to change. The impact on customer experience is especially damaging. Disconnected information results in irrelevant communication, inconsistent service delivery and mistrust. Not being capable of acting on fragmented data is a major pain point in customer experience today. Research shows fragmentation hampers CX. Seventy percent of CX leaders claim siloed data is a barrier⁴.

B. Business consequences

Data fragmentation affects three core areas.

- Incomplete profiles slow down personalization, which results in poor engagement and lesser satisfaction.
- The efficiency of operations, including having teams duplicating efforts or working off old data.
- Inconsistency or unavailability of data is damaging the accuracy of a report and restraining leadership from making informed decisions¹. Poor decisions impact the internal and external operations of organizations. It leads to a greater negative impact on customers. The organization loses the ability to handle crucial problems (**Figure 1**).

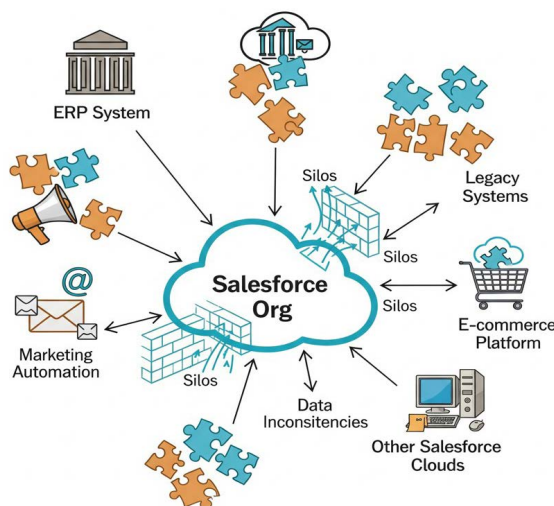


Figure 1: Fragmented data inputs across systems such as ERP, CRM and legacy platforms contributing to Salesforce silos.

3. Strategic Necessities: Developing A Plan for Data Centralization

A. Building a cohesive strategy

Salesforce's requirements for data centralization involve more than a technical fix; it requires an enterprise-wide approach. This is about ensuring that data ambitions are aligned with business outcomes, identifying system gaps and a clear roadmap. Recent analyst research shows that organizations need

to establish a data strategy for advanced analytics (and insights). Organizations that implement structured data approaches together with new technologies achieve substantial performance improvements¹. Organizations that develop analytical decision-making cultures through centralized data strategies achieve better data-to-business-intelligence conversion capabilities⁵.

B. Four core pillars

Having a strong data centralization strategy requires four main pillars.:

- Governance is the clarification of ownership, policies, quality standards and so on, which assures data integrity.
- Combine the information from different systems to help eliminate silos and support a single source of truth.
- Strengthen protections for your sensitive data with encryption and access control measures.
- Follow firm industry rules like GDPR and HIPAA regulations to avoid legal and reputational risks³.

C. Choosing the right data management model

Organizations have to choose centralized data management, decentralized or hybrid.

- Centralized solutions will provide you with consistency, greater security and holistic insight. However, it might slow responsiveness and require a complete investment upfront.
- Decentralized structures give autonomy and allow faster decision-making, but can create silos, with uneven data quality.
- **Hybrid:** Salesforce's most practical model. Use something like Data Cloud to store all customer data in one place or help create Customer 360 while allowing local teams to manage operational data with proper guardrails.

It is less about the "right" model and more about having the governance, clarity of ownership and alignment with need (**Figure 2**).

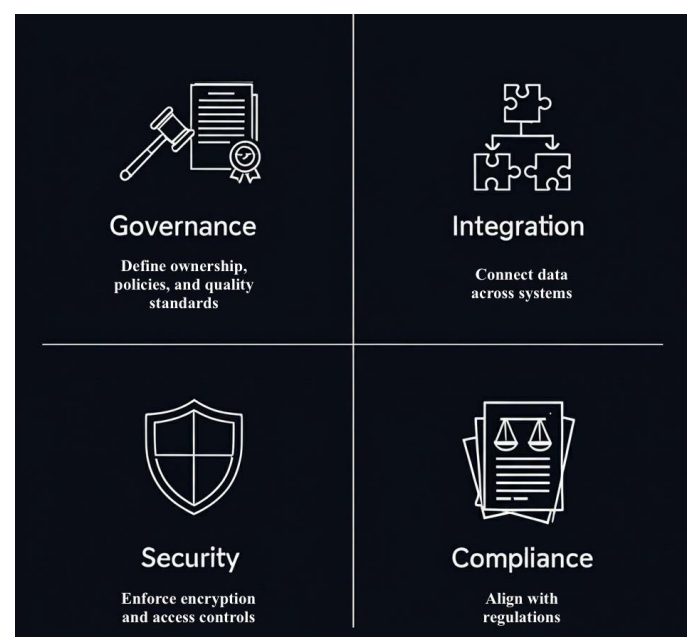


Figure 2: Core pillars-governance, integration, security and compliance-that underpin a scalable Salesforce data centralization strategy.

4. Salesforce's Arsenal for Data Centralization

Salesforce provides powerful tools to solve all your data fragmentation problems. The Salesforce Data Cloud and MuleSoft Any point Platform are at the core of it all, allowing for unified customer views and seamless integration across all systems.

A. Salesforce data cloud enables a unified view of customer

Salesforce Data Cloud gathers data from various sources and combines them into profiles that can be operated upon in real-time.

Key capabilities:

- Retrieve, Extract, Transmit, Transport, Integrate. Snowflake and Databricks are contemporary enterprise platforms that allow decoupled architectures to access and analyze data without requiring its copying or movement. These capabilities align with data lake strategies that prioritize flexibility, scalability and cost-efficiency³.
- **Harmonize:** Through a consistent data model, you can map disparate records to a unified profile.
- **Control:** Adopts the procedures driven by the set of rules for the purpose of ensuring privacy and compliance.
- Activate enables AI, personalization and real-time triggers in Salesforce products.
- Customer 360 is the system that generates a unified customer ID and profile across sales, service, marketing and commerce⁶.

B. MuleSoft any point platform: Enterprise-scale integration

Mulesoft facilitates a connection of the API to the cloud, on-premise and legacy systems unifying the Salesforce ecosystem with the rest of the enterprise.

Key capabilities:

- Link Salesforce with your ERP, Inventory and Accounting Software.
- Automates workflows between applications with secure, reusable APIs.
- **Extensibility:** Includes a variety of integration patterns, such as real-time sync, batch, publish-subscribe⁷.

C. Other tools

Marketing Cloud Connect Integration between Marketing Cloud and Sales/Service Cloud for real-time personalization.

Salesforce Data Pipelines makes data in Salesforce fast to analyze.

Tableau provides real-time visualization using the native integration of Data Cloud.

Apex, Platform Events, CDC, External Services, Salesforce Connect are tools with varied integration capabilities.

D. Critical evaluation: Risks and trade-offs

- **Salesforce Data Cloud - Limitations:**
 - **High pricing and licensing complexity:** Premium pricing and variable costs (e.g., API, storage, compute) can quickly get out of hand and are often underestimated.
 - The resolution of the identity and the configuration of the unified model require special skills⁷.

- Some niche systems and on-prem systems might continue to use traditional ETL pipelines.
- **MuleSoft - limitations:**
 - The setup requirements to get things going are tough. It requires strong API governance and technical expertise.
 - If a company is small, then usually it will have high Initial Investment costs and delay in ROI costs⁷.
- **Risks of over-centralization:**
 - Centralized file system has made everything vulnerable to hacking, outage or misconfiguration or simply a mistake.
 - It's hard and expensive for customers to switch providers when they get hooked on Salesforce's tools.
 - Big data hubs invite regulatory scrutiny. Poor consent or retention management may lead to breaches.
- **Trade-off: Flexibility vs control:**
 - Gains control refers to standardized governance, quality and compliance.
 - Delays or restrictions on local teams changing a tool or schema.

Hybrid model - core customer data is centralized while local ops have a little autonomy offer a more balanced route⁸.

5. Creating Strong Governance of Data in a Centralized Setting Environment

Strengthening Governance for Salesforce Centralization of Data. A centralized platform can become a source of distrust due to inadequate policies and controls, which allow for inconsistent, non-secure or out-of-control data.

A. Salesforce governance framework: What is GOV-SF8?

This report presents GOV-SF8: an 8-pillar model to guide centralized governance in Salesforce environments. GOV-SF8 is a new approach that leverages tried-and-true frameworks like DAMA-DMBOK, COBIT and the Salesforce Data Strategy Guide to effectively resolve challenges specific to Salesforce governance. It takes the theory of governance and adapts it into something practical, Salesforce native. It consists of other tools like Shield, Privacy Center and some governance features of Data Cloud¹.

• GOV-SF8 pillars

- Data Ownership & Stewardship - Assign domain owners with clear responsibilities.
- Data Quality Assurance - Set and track metrics for accuracy, completeness and consistency.
- Access Controls - Enforce least-privilege policies using roles, profiles and permission sets.
- Compliance Management - Align with GDPR, HIPAA and industry-specific law.
- Metadata & Lineage - Maintain transparency through data dictionaries and lineage tracking.
- Change Control - Manage schema, integration and workflow updates systematically.
- Monitoring & Auditability - Enable real-time alerts, logging and reporting⁹.

- The implementation of governance requires organizations to embed it into their culture through ongoing training which supports strategic frameworks that advance data maturity and business impact¹.

The Salesforce Data Strategy Guide provides a guideline towards best practices. In creating the DAMA-DMBOK and COBIT frameworks, many Salesforce's data controls were modeled from these external sources. However, it is important to note that governance features such as API controls and multi-cloud environment/role-based security controls are often not covered in other governance models and literature and were made part of the guide to suit platform-specific controls.

B. Theoretical grounding in governance models

The GOV-SF8 model builds on well-established data governance theory.

- The 11 functional areas presented in the DAMA-DMBOK (data management body of knowledge) attests to the importance of stewardship, quality, integration, architecture and others. By treating data as a managed enterprise asset, it helps drive centralized Salesforce strategies.
- The governance framework of COBIT 2019 focuses on the governance of IT. It further assists companies in managing their IT.
- DGI Maturity Model evaluates capabilities, from ad hoc to optimized levels, helps in assessing and offering roadmap for improving data maturity.

By adding structure, accountability and scalability, the frameworks improve Salesforce governance. The report could be strengthened by the inclusion of a peer-reviewed research study or an empirical methodology (structured case analysis, survey, interview, etc.) even if the industry frameworks integrated prove suitable. Vendor documentation and commercial sources are heavily relied on which is not scholarly. Academic literature could also strengthen the governance models and keep the evidence more balanced, thus less reliant on proprietary tools.

C. Principles of effective governance in salesforce

For governance to be successful in a centralized setup, it must be feasible and actionable:

- Give ownership of spheres to data stewards of specific domains¹.
- Set metrics for accuracy, timeliness and completeness.
- Apply encryption, MFA, controls and audit trails for security and compliance⁹.
- Keep policies accessible and channels open for response.
- Foster ownership and data literacy at all levels¹.

D. Ensuring data quality, consistency and reliability

Centralized platforms often expose existing data flaws. To ensure integrity.

- **Prevention:** Implement validation rules, deduplication and standardized input formats.
- You should conduct audits and cleansing cycles regularly.
- Make use of profiling and cleaning tools on Data Cloud or on Data Pipelines. Bad information creates distrust and subverts analytics, automation and adoption.

E. Retention, security and compliance considerations

- The centralized repository system provides better control, but organizations must bear substantial responsibilities for compliance and security. The literature shows that organizations need data governance frameworks to achieve regulatory compliance and protect distributed data assets⁹.
- Organizations need to establish retention and deletion policies that follow legal and business needs while using auditability systems and metadata tracking features.
- The implementation of RBAC, MFA and continuous monitoring systems within secure architectures protects against unauthorized access and data breaches (**Table 1**). A proactive governance model needs to implement privacy by design principles, which ensure GDPR, HIPAA and CCPA standards compliance for consent management, policy enforcement and data lifecycle rules⁹.

Table 1: Data Governance Best Practices Checklist for Centralized Salesforce Environments.

Governance Area	Best Practice Summary	Key Tools/Features
Data Ownership	Assign stewards for key data domains. Align ownership with business roles.	Role Hierarchy, Custom Fields, Chatter
Data Quality	Define quality metrics; implement validation rules; regularly audit and train users.	Validation Rules, Data Pipelines, Data Cloud Tools
Data Security	Enforce least privilege, MFA and continuous monitoring.	Profiles, Permission Sets, Salesforce Shield
Data Compliance	Adhere to regulations (GDPR, CCPA, etc.); manage consent and audit trails.	Privacy Center, Consent Objects, Data Mask
Data Retention	Define retention/archival policies; ensure secure, compliant data lifecycle management.	DataArchiva, BigObjects, AppExchange Tools
Access Control	Set role-based access; review and document permissions regularly.	Profiles, Sharing Settings, Public Groups
Change Management	Govern changes using structured processes and stakeholder communication.	Sandbox, Change Sets, DevOps Tools
Metadata Management	Maintain data dictionary and lineage; ensure accessible, up-to-date metadata.	Schema Builder, Metadata Types, Unified Data Model

6. Navigating the Transition: From Fragmentation to Centralization

Transforming Salesforce data is more than just an IT deployment; it is an architectural, people, process and governance change. While the benefits are clear, the road is often filled with hidden complexities beyond what the platform can do.

A. Common pitfalls in centralization projects

Companies that choose centralization face identical implementation challenges.

- The process of transferring data from legacy systems proves challenging because these systems contain inconsistent and duplicated information. The trustworthiness and usability of centralized data remains compromised until proper

cleansing and mapping procedures take place before data integration¹⁰.

- The connection between modern Salesforce and other front-office environments and back-office systems especially those that are outdated proves difficult even when using MuleSoft as a comprehensive tool.
- The practice of over-customizing Salesforce environments through well-intentioned modernization efforts creates brittle configurations that result in scaling and maintenance challenges.
- The lack of defined success metrics and clear project timelines in projects leads to uncontrolled expansion which results in budget overruns and delayed project completion¹¹.
- Users who resist change management tend to use legacy tools instead of adopting new systems because they lack early involvement and training and visible success examples¹².
- The process of data centralization exposes organizations to increased security and compliance risks because inadequate consent management during transition periods leads to regulatory noncompliance (GDPR, HIPAA etc.)⁹

B. Recommended best practices to be successful

To effectively address these problems organizations should pay attention to a limited number of elements of success:

- Start by auditing the existing systems, data quality and priorities of the organization, which help set the agenda.
- It cannot accomplish this alone, so involve the business. Having strong and early buy-in from marketing, sales, legal and operations can create alignment and avoid rework later.
- Start with the cases where Centralized Data will deliver the highest Return on Investment (ROI), like Lead Conversion (Marketing) and Personalization. This builds credibility before scaling.
- Put into action slowly. The phased rollout approach allows for faster feedback, reduces risk and aids teams in adapting to new workflows¹³.
- Maintain Trusted Data Layer Through Continuous Processes like automated validation, deduplication and scheduled audits to enforce Data quality.
- Ensure that your training is designed with the user in mind, has user documentation and requires change by executive sponsors.

C. Organizational change management (OCM is Non-Negotiable)

A strong change management is must for a sound Salesforce deployment, else it will fail. Centralization enables teams to collaborate, analyze data and make decisions differently. Resistance is natural—but it must be addressed head-on. A solid OCM approach includes.

- Define a vision and rationale for this transition clearly.
- Spotting change champions in the business units.
- Establishing a feedback system to listen and adapt to issues.
- Delivering targeted, role-specific training.
- Celebrating little victories to build momentum^{14,15}.

D. Cost and ROI: Seeing the bigger picture

Investment in data centralization doesn't just mean platform licenses. Organizations must account for.

- Salesforce Data Cloud, MuleSoft, Shield and any usage-related costs are all included.
- Implementation experts often require a mix of in-house and external help with architecture design, system integration and data engineering.
- It's not only a go live date; a successful rollout means we need to continuously empower and support users.
- You need ongoing support and monitoring are essential as data will continue to grow.

That said, the long-term payoff can be significant (**Table 2**) and (**Figure 3**). Research shows that 89% of organizations achieved positive ROI within 9 months after centralizing their data using Salesforce tools proper planning¹⁶.

Table 2: Challenges & Mitigations.

Challenge	Impact	Mitigation
Data Migration	Loss, delays, low trust	Cleanse data, map fields, test thoroughly
Integration Gaps	Siloed data, manual workarounds	Use APIs, iPaaS, standard connectors
User Resistance	Low adoption, poor ROI	Train users, engage early, show quick wins ¹⁴
Scope Creep	Budget/schedule blowouts	Set SMART goals, enforce change control
Compliance Risks	Fines, breaches	Encrypt, monitor, follow retention rules

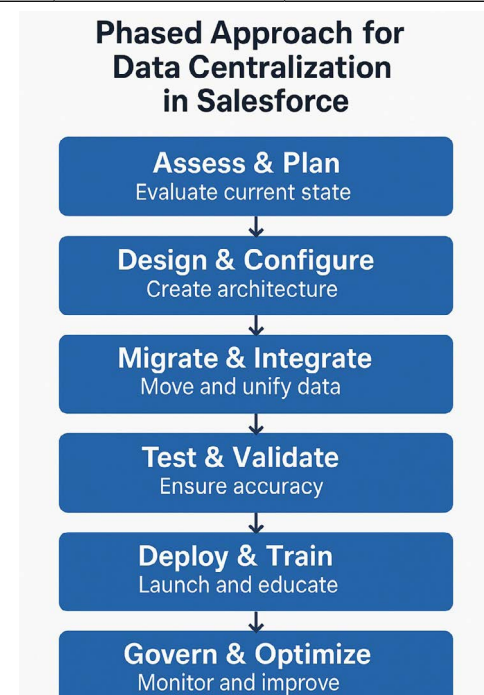


Figure 3: Phased roadmap outlining sequential steps from system assessment to implementation and governance in Salesforce data centralization.

7. Exploring Data Unification In Real-World Case Studies

Exploring actual use cases shows how companies are using Salesforce techniques to conquer data disruption to put everything in one place.

A. Service finance: Building customer view in 360-degree format:

A global financial services firm deepened its partnership with Salesforce with the adoption of Data Cloud to unify customer data. Before, the information across product lines was held in separate areas, limiting the full perspective on client relations.

- Customer data fragmentation across the various financial products made visibility and personalization difficult. As a result, cross-sell identification became a challenge. Many Principal leaders said disjointed data prevented them from taking action.
- The principal utilized Salesforce Data Cloud to integrate customer-related data from various systems. An important facilitator was the zero-copy integration of Salesforce, which allowed access to third-party data without transferring it.
- As a result of the first project delivered 34% of contact records integrated into consolidated profiles for finance professionals. These profiles are always updated and they helped deliver highly targeted messages to millions of customers, leading to intelligent content and relevant offers and is intended for future applications such as cross-sell strategies across customer segments¹⁷.

Data Cloud Utility for Financial Services: Apart from Principal, Salesforce Data Cloud is used by banks and insurers to unify data from core systems, credit card systems, insurance products and digital channels. This enables.

- Personalized product recommendations
- Cross-sell and upsell identification.
- Loyalty program management.
- Multi-channel marketing execution.
- Fraud prevention.

Examples

- LV= General Insurance uses Salesforce Financial Services Cloud to capture all customer interactions, unlocking unique insights and enabling digital claims.
- Azur Insurance utilized Salesforce automation to streamline its quoting and underwritings, which reduced time taken and improved loss ratios¹⁸.

The achievement of these goals shows that data integration requires more than one instrument. The process involves the joint combination of Salesforce Data Cloud, MuleSoft and Tableau and through strong data governance and a data strategy aligned clearly with the business that delivers measurable and scalable business outcomes (**Figure 4**).

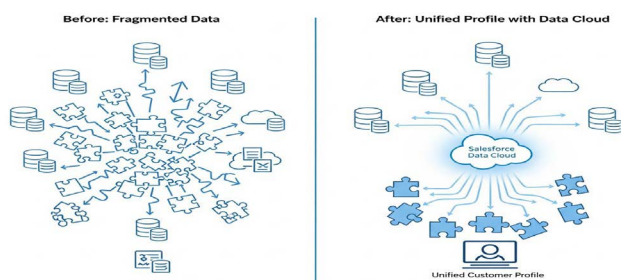


Figure 4: Transition from fragmented data sources to a unified customer profile using Salesforce Data Cloud integration.

8. Conclusion

8.1. Embracing a centralized future with salesforce

A. Strategic summary

The transition of data fragmentation into centralized storage within Salesforce represents a strategic organizational change. The report shows that organizations maintain numerous data silos through multiple applications which prevents them from obtaining unified customer insights needed for personalized experiences and operational optimization and fast data-driven choices. The current situation produces actual damage to customer loyalty as well as resource distribution and market competitiveness.

The strategic benefits of centralizing data primarily customer data become accessible when organizations implement this approach. A successful robust data strategy depends on governance integration security and compliance to achieve its goals. The solution to this complexity exists within the powerful tools that Salesforce provides. The Customer 360 view becomes achievable through Salesforce Data Cloud which serves as a vital hub to unite customer data across all touchpoints. The system enables the connection of separate sources and unifies data through identity resolution and a unified model before activating it for personalization and service and AI applications. The MuleSoft Anypoint Platform delivers extensive API-led connectivity that enables Salesforce to connect with enterprise applications across the entire universe for smooth data distribution throughout the organization.

B. Practical implications

Benefits of implementing Salesforce Data Cloud and MuleSoft

- The implemented processes will reduce resource consumption while eliminating redundant work
- The system provides immediate access to data, which drives productivity and responsiveness.
- The unified high-quality data will improve forecasting capabilities and enable proactive service delivery and hyper- personalization.

The complete realization of these benefits requires thorough planning together with strong governance and business alignment.

C. Identified limitations

Alongside the strengths, there are some limitations.

- The implementation of Salesforce Data Cloud and MuleSoft demands substantial financial investment and technical expertise for both initial and ongoing costs.
- The deep integration within the Salesforce ecosystem creates vendor lock-in risks because it restricts future system flexibility. The cost of switching systems in this case will be very high.
- A centralized system becomes a bottleneck when central data governance is not enforced because it can fail.
- Some systems cannot be unified because they include old systems and specialized business applications. The systems will persist because of existing data gaps¹³.

The proactive management of these limitations must be

established to stop the centralization objectives from becoming diluted.

D. Future research directions

Future research should consider enhancing Salesforce-driven data centralization initiatives.

- The project focuses on studying the performance of evolving AI Models (for instance, Salesforce Einstein, Agents based on GPT) at different levels of data completeness and quality.
- **Hybrid governance models:** Review the best practices in combining centralized control and decentralized flexibility by a global multi-division company.
- **Salesforce data cloud case studies:** Develop longitudinal ROI benchmarks and case studies across industries to confirm investment outcomes.
- Architectural models that help incorporate consent and data minimization at the center of centralized architectures. This also helps ensure regional compliance.

Studies will assist organizations to cope with the ever-increasing complexity of data, regulations and AI while maximizing the value of Salesforce.

9. References

1. https://www.researchgate.net/publication/376009028_The_Impact_of_Data_Strategy_and_Emerging_Technologies_on_Business_Performance
2. <https://www.researchgate.net/publication/382341275>
3. Nambiar A, Mundra D. An overview of data warehouse and data lake in modern enterprise data management. *Big Data and Cognitive Computing*, 2022;6: 132.
4. <https://www.kohezion.com/blog/data-fragmentation>
5. Szukits A, Móricz P. Towards data-driven decision making: The role of analytical culture and centralization efforts. *Review of Managerial Science*, 2024;18: 2849-2887.
6. <https://www.salesforce.com/data/>
7. <https://www.mulesoft.com/artificial-intelligence/integrated-strength-of-salesforce-service-cloud-einstein-data-cloud-and-mulesoft>
8. <https://inclusioncloud.com/insights/blog/centralized-decentralized-data/>
9. Research Pub. Data security and compliance through effective data governance: A systematic literature review. *International Journal of Information Security*, 2025.
10. <https://astreca.com/blog/salesforce-data-migration/>
11. <https://thespotforpardot.com/2024/03/19/5-tips-to-accelerate-your-salesforce-data-cloud-implementation/>
12. <https://www.qsstechnosoft.com/blog/salesforce-app-development-117/overcoming-common-challenges-in-salesforce-implementation-a-practical-guide-597>
13. <https://www.synebo.io/blog/salesforce-implementation-main-challenges-and-best-practices/>
14. <https://www.minusculetechnologies.com/blogs/salesforce-classic-to-lightning-migration-major-challenges-and-solutions>
15. <https://www.bthtech.com/salesforce-change-management/>
16. <https://ttms.com/how-to-measure-roi-salesforce-for-smb/>
17. <https://www.salesforce.com/news/stories/principal-financial-customer-news/>
18. <https://twistellar.com/blog/salesforce-financial-services-automation>