University of Phoenix®

Supporting Research Report

Fill out each section with information relevant to your project. Be sure to include the name and purpose of your project.

Supporting Research Report for:

Project name: Fintech LLC

Purpose of project: Internet Bank

- **Executive Summary**:

The Internet Bank project aims to create a secure, reliable, scalable, feasible, and accessible online banking platform. The project will leverage cutting-edge technologies to ensure robust cybersecurity, high reliability, scalability, user-friendly and accessible. This report provides an unbiased analysis of the industry background, current technology trends, project approach, alternative approaches, impact analysis, and risk analysis.

- **Industry Background**:

The banking industry has undergone significant transformation in recent years due to advancements in technology. The rise of fintech has driven traditional banks to innovate and adopt new technologies to stay competitive. Online banking has become a critical component, offering customers convenience and banks operational efficiency. The global online banking market is expected to continue growing, driven by increasing internet penetration. Beyond past the smartphone adoption is the blockchain acceptance, and the demand for seamless innovative financial services.

Key Statistics:

- Global online banking market size is expected to reach $34.5 billion by 2025, growing at a CAGR of 12.7% from 2020.
- 76% of consumers globally use digital banking services.
- Cybersecurity threats in the financial sector have increased by 238% since the onset of the COVID-19 pandemic.

- **Technology Trends**:

Cyber Security

Trend: Increasing adoption of advanced encryption methods, AI-powered threat detection, and multi-factor authentication. Encryption (e.g., AES, RSA) protects sensitive customer data, ensures regulatory compliance. Ensures security of DeFi smart contracts and blockchain cryptocurrency transactions, etc.

Example: Banks like JPMorgan Chase use AI for real-time fraud detection and response.

Reliability

Trend: Cloud computing for enhanced availability, scalability, and disaster recovery. Load balancing ensures stability and performance, handles high traffic efficiency. Complex setup, management, and additional costs involved.

Example: Goldman Sachs uses AWS for scalable, reliable infrastructure.

Scalability

Trend: Microservices architecture and containerization e.g., Docker, Kubernetes) simplifies deployment, scaling, and resource efficiency. Easy

maintenance, and deployment. Increased complexity requires robust management and monitoring tools. Associated security concerns.

Example: Capital One bank uses microservices and Docker for scalable application development.

Feasibility

Trend: API-based integration. Agile development methodologies offer better adaptability to changes and faster time to market product but potential for scope creep. API and integration platforms facilitate integration with third-party services, accelerate development and deployment. Risks associated - security vulnerabilities, dependency on external services.

Example: PayPal uses APIs to integrate with various financial services and agile for iterative development.

Accessibility

Trend: Responsive web design and mobile banking apps. Improved user experience, broader accessibility across devices. Complexity in design and testing, potential preference issues. Mobile applications convenient for users, enhanced engagement. On the other hand, development and maintenance costs, platform-specific challenges are the associated risks.

Example: Bank of America offers a highly rated mobile app for seamless customer experience.

- **Project Approach**:

Overview

The project will be executed in iterative phases, starting with a pilot phase to test key functionalities, followed by full-scale deployment. The approach ensures continuous improvement based on feedback and evolving industry standards. Project managers often revisit and refine their plans based on continuous improvement, research, and feedback.

Key Phases:

1. Planning: Define objectives, scope, budget, and timeline High level technology choices and implementation strategy.
2. Research: Conduct in-depth research analysis of technologies, reliable resources, and best practices in assessing the latest trends, case studies, and expert opinions.
3. Refinement: Update the plan based on new findings, cost-effective solutions or better performance alternatives. Revise the budget and timeline, to reflect the new choices. Switching from traditional servers to a more scalable cloud-based infrastructure after researching the latest advancements in cloud computing. Incorporating a new, more efficient encryption method discovered during research, enhancing security while reducing costs. Continuously monitor the industry for emerging technologies and trends.
4. Design: Develop architecture and user interface prototypes.
5. Development: Build the platform using agile methodologies.

6. Testing: Conduct extensive testing for selected technologies, security, performance, and usability. Gather feedback and performance metrics. Make further adjustments based on real-world data.
7. Deployment: Finalize the technology stack and implementation roadmap. Launch the platform in stages, starting with a pilot.
8. Monitoring and Maintenance: Continuous monitoring and updates to ensure optimal performance.

- **Alternative Approach**:

  Traditional Banking Software

  - Pros: Proven reliability, established vendors, comprehensive support.
  - Cons: Less flexibility, higher costs, longer implementation times.

  In-House Development

  - Pros: Full control over the development process, customized solutions.
  - Cons: Requires significant resources, higher risk of delays and cost overruns.

  Using Open-Source Solutions

  - Pros: Cost-effective, community support, flexibility.
  - Cons: Potential security risks, requires skilled personnel for customization and maintenance.

- **Impact Analysis**:

  Positive Impacts

  - Customer Experience: Enhanced user experience through intuitive interfaces and mobile accessibility.

- Operational Efficiency: Reduced operational costs and improved efficiency through automation and integration.
- Market Competitiveness: Strengthened market position by offering innovative services and staying ahead of technological trends.

Negative Impacts

- Implementation Costs: High initial investment in technology and training.
- Change Management: Resistance from staff and customers accustomed to traditional banking methods.

- **Risk Analysis**:

Cybersecurity Risks

- Threats: Data breaches, phishing attacks, ransomware.
- Mitigation: Implementing robust encryption, multi-factor authentication, role-based authentication, and AI-powered threat detection.

Reliability Risks

- Threats: System outages, data loss.
- Mitigation: Using cloud infrastructure with high availability and disaster recovery plans. Dependence on third party providers, potential risk for service outages

Scalability Risks

- Threats: Performance issues under high traffic, inability to scale.
- Mitigation: Adopting microservices and containerization to ensure smooth scaling.

Feasibility Risks

- Threats: Integration challenges, project delays.
- Mitigation: Employing API-based integration and agile development to ensure flexibility and timely delivery.

Accessibility Risks

- Threats: Inaccessible interfaces, limited device compatibility.
- Mitigation: Designing responsive web applications and native mobile apps to ensure broad accessibility.

Conclusion:

The Internet Bank project promises significant business benefits, including improved customer experience, operational efficiency, and market competitiveness. However, it also involves considerable risks that must be carefully managed. By adopting a structured and iterative approach, leveraging current technology trends, and continuously monitoring and adjusting the plan, the project can achieve its objectives and gain executive approval.

REFERENCES:

Carranza, R. (2021, January 14). *PMC PubMed Central*. e-Banking Adoption: An Opportunity for Customer Value. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7840532/

Forbes Advisor. (n.d.). *Benefits of Digital Banks*. https://www.forbes.com/advisor/banking/benefits-of-digital-banking/

HSP HenryStewartPublications. (n.d.). *Journal of Digital Banking.* https://www.henrystewartpublications.com/jdb

Kaur, S. J. (2021, February 17). *PMC PubMed Central*. Adoption of digital banking channels in an emerging economy: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7886606/

Zaman, S. I., & Khan, S. A. (2022, December 29). *How digitalization in banking improve service supply chain resilience of e-commerce sector? a technological adoption model approach* SpringerLink. https://link.springer.com/article/10.1007/s12063-022-00341-0