

SIR 2025 Annual Conference

CHICAGO, IL
Fairmont Hotel in Chicago

May 4-6, 2025



SIR | SOCIETY OF
INSURANCE
RESEARCH

SIR 2025 Annual Conference

CHICAGO, IL
Fairmont Hotel in Chicago

May 4-6, 2025



Elevating AI Excellence: The crucial role of digital transformation and data strategy

Nageswaran Vaidyanathan, The Doctors Company

Agenda

- **Digital Transformation**
- **Artificial Intelligence**
- **Q&A**



Digital Transformation



Digitization -> Digitalization -> Digital Transformation



DIGITIZATION

Digitization is the conversion of analog information into digital form, enabling storage, access, and manipulation using digital devices and software.



DIGITALIZATION

Digitalization is the integration of digital technologies into various aspects of business and society to optimize operations, create new models, and enhance the customer experience.



DIGITAL TRANSFORMATION

Digital transformation is the use of technology to fundamentally transform the way a business operates and delivers value.



Examples of Digital Transformation

- Underwriting and Risk Assessment
- Digital Claims Processing
- Omnichannel Customer Experience
- AI-Powered Fraud Detection
- Self-Service Policy Management
- Telematics and Usage Based Insurance
- Blockchain and Smart contracts
- Operational Efficiency



Considerations for Digital Transformation

People

- Change Management
- Skill development
- Leadership

Process

- Streamlining workflows
- Customer centric design
- Compliance

Technology

- Scalability
- Integration
- Security

Costs

- Budget Allocation
- Cost benefit analysis

Timing

- Phased implementation
- Market readiness

Third parties

- Vendor selection
- Partnership models
- Risk management

Build versus Buy

- Build proprietary
- Buy Standard
- Combine hybrid



Balancing Legacy and Modern Systems

- Encapsulation
- Rehosting
- Replatforming
- Refactoring
- Rearchitecting
- Parallel Operations
- Phased Rollouts
- Middleware Integration
- Training and Change Management



Benefits & Key Metrics of digital transformation

Benefits

- Ensures Data Quality and Accuracy
- Promotes Fairness and Reduces Bias
- Supports Regulatory Compliance
- Enhances Transparency and Accountability
- Facilitates Data Integration
- Mitigates Risks

Key Metrics

- Customer Experience Metrics:
 - Net Promoter Score (NPS), Customer satisfaction scores, Average resolution time
- Operational Metrics:
 - Process automation rates, Reduction in manual errors or rework, Time saved in key workflow
- Financial Metrics:
 - Return on investment, Revenue growth, Cost savings
- Adoption Metrics:
 - Adoption Rate, Active usage metrics
- Innovation Metrics:
 - Number of new products or services launched, Market share growth, Patents or intellectual property



Stories to Tell

- **Customer Success Stories:**
 - Highlight how it improved customer experiences, such as faster claims processing or personalized policy offerings
 - Example: A customer filing a claim through a mobile app and receiving approval within minutes
- **Employee Empowerment Stories:**
 - Showcase how digital tools have enhanced employee productivity and job satisfaction
 - Example: Employees using AI-powered analytics to make data-driven decisions
- **Innovation Milestones:**
 - Share breakthroughs in product development or market expansion enabled by digital transformation
 - Example: Launching a usage-based insurance product leveraging telematics
- **Operational Wins:**
 - Illustrate how the transformation streamlined processes and reduced costs
 - Example: Automating policy renewals, saving thousands of hours annually
- **Community Impact**
 - Highlight contributions to broader societal goals, such as sustainability or accessibility
 - Example: Using IoT devices to prevent home damage and reduce environmental impact



Digital Transformation to AI enablement

- **Modern Data Infrastructure**
 - Siloed data to centralized, accessible data. AI readiness requires high quality for training models and predictions
- **Automated, streamlined workflows**
 - From manual to digital processes. Allows AI to plug in and add intelligence
- **Cloud and scalable infrastructure**
 - Scalable compute and storage for training and deploying AI models. Easier to integrate real-time data sources and run AI pipelines efficiently
- **Governance, Security and Compliance**
 - Governance frameworks for data quality, privacy and compliance. Allows for ethical and trustworthy AI.
- **Talent and cultural shift**
 - Upskilling teams, hiring data scientists, fostering cross-functional collaboration promotes experimentation and data driven decisions
- **Integration of ecosystems**
 - APIs, partner platforms to feed external data enabling smarter and more contextual decisions with multiple data sources



Artificial Intelligence(AI)



Board engagement with AI – The 3 dimensions

- **Strategy and structure**
 - Organizational priorities and competitive positioning
 - Short-term gains against long-term success
 - Sustainable advantage
- **Risk and accountability:**
 - Responsible AI/AI ethics
 - AI Council
 - Regulatory landscape
 - Enhanced Governance, Risk and Compliance(GRC)
- **Organizational readiness:**
 - Right talent, culture, and resources



Assessing AI Readiness

- Evaluate Data Infrastructure
- Analyze Current Processes
- Assess Talent and Skills
- Examine Technology Stack
- Define Business Objectives
- Conduct a Readiness Audit
- Identify Pilot Projects
- Monitor and Adapt



Data Strategy for AI

- Collection and Acquisition
- Governance
- Quality
- Integration and Management
- Scalability and Flexibility
- Ethics and Transparency
- Infrastructure Readiness
- Monitoring and Feedback
- Data Analytics and AI Model Training



Data Governance in AI

Benefits

- Ensures Data Quality and Accuracy
- Promotes Fairness and Reduces Bias
- Supports Regulatory Compliance
- Enhances Transparency and Accountability
- Facilitates Data Integration
- Mitigates Risks

Key Steps for Effective Data Governance

- Define Ownership
- Establish Policies
- Implement Tools
- Regular Audits



Ethical Considerations for AI

- Privacy and Consent
- Bias and Fairness
- Transparency
- Data Ownership
- Security
- Purpose Limitation
- Impact on Society
- Regulatory Compliance



AI Metrics

- Accuracy
- Precision and Recall
- F1 Score
- Area Under the ROC Curve (AUC-ROC)
- Bias and Fairness Metrics
- Data Completeness and Timeliness
- Operational Efficiency
- User Engagement



AI Enablers : Tools and Technologies

Machine Learning (ML)	Natural Language Processing (NLP)	Computer Vision	Robotic Process Automation(RPA)	Generative AI
Learn from data, identify patterns, and make decisions with minimal human intervention	Read, interpret, and generate human language in a way that is both valuable and meaningful	Interpret and make decisions based on visual data from the world, such as images and videos	Automate repetitive, rule-based tasks using software robots(bots)	Create new content, such as text, images, or music, by learning patterns from existing data
Predictive Analytics	Blockchain	Cloud Computing	Internet of Things (IoT)	Cybersecurity Tools
Analyze historical data and make predictions about future events or trends	Create decentralized, transparent, and secure systems for data sharing, decision-making, and automation	Deliver computing services—such as storage, processing power, and software—over the internet	Collect and exchange data real-time over the internet	Help protect computers and data from online threats like hacking, malware, and data breaches



P&C Insurance Sample Use Cases

Product & Pricing	Claims	Sales & Marketing	Service & Operations
<ul style="list-style-type: none">• Pricing and Ratemaking• Underwriting Risk Assessment• Life-time value prediction• Personalized policy Offering	<ul style="list-style-type: none">• Fraud Detection• Chatbots for FNOL• Claim Assignment• Damage estimation	<ul style="list-style-type: none">• AI-powered chatbots for Sales• Optimized marketing and cross-selling• Customer communications	<ul style="list-style-type: none">• AI-powered chatbots for Service• Proactive prevention strategies using real time data



AI Implementation Risks & Mitigation

People	Process	Technology
<p>Risks and Implications:</p> <ul style="list-style-type: none"> • Resistance to change • Skill gaps • Potential job displacement <p>Mitigating Actions:</p> <ul style="list-style-type: none"> • Training Programs • Change Management • Operating Model Changes 	<p>Risks and Implications:</p> <ul style="list-style-type: none"> • Misalignment with existing workflows • Fragmented process inefficiencies • No proper human oversight <p>Mitigating Actions:</p> <ul style="list-style-type: none"> • Process Mapping • Hybrid Models • Pilot Testing 	<p>Risks and Implications:</p> <ul style="list-style-type: none"> • Compatibility issues • High costs of upgrading infrastructure • Cybersecurity vulnerabilities <p>Mitigating Actions:</p> <ul style="list-style-type: none"> • Integration Tools • Scalable Infrastructure • Security Protocols
Data	Third-Party	Build Vs Buy
<p>Risks and Implications:</p> <ul style="list-style-type: none"> • Data silos • Poor Data Quality • Privacy and compliance risks <p>Mitigating Actions:</p> <ul style="list-style-type: none"> • Data Governance • Unified Data Platforms • Ethical AI Practices 	<p>Risks and Implications:</p> <ul style="list-style-type: none"> • External vendor dependence • Limited control • Vendor lock-in risks <p>Mitigating Actions:</p> <ul style="list-style-type: none"> • Vendor Evaluation • Contractual Safeguards • In-House Expertise 	<p>Risks and Implications:</p> <ul style="list-style-type: none"> • Build: significant time and resources • Buy: lack of customization <p>Mitigating Actions:</p> <ul style="list-style-type: none"> • Hybrid Approach • Cost-Benefit Analysis • Customization



SIR 2025 Annual Conference

CHICAGO, IL
Fairmont Hotel in Chicago

May 4-6, 2025



THANK YOU

Elevating AI Excellence: The crucial role of digital transformation and data strategy

Nageswaran Vaidyanathan, The Doctors Company