Conf42 Internet of Things (IoT) 2024

From Data to Decisions: Bridging AI and IoT for Smarter Systems

Natalia Drazhnik

Product Owner

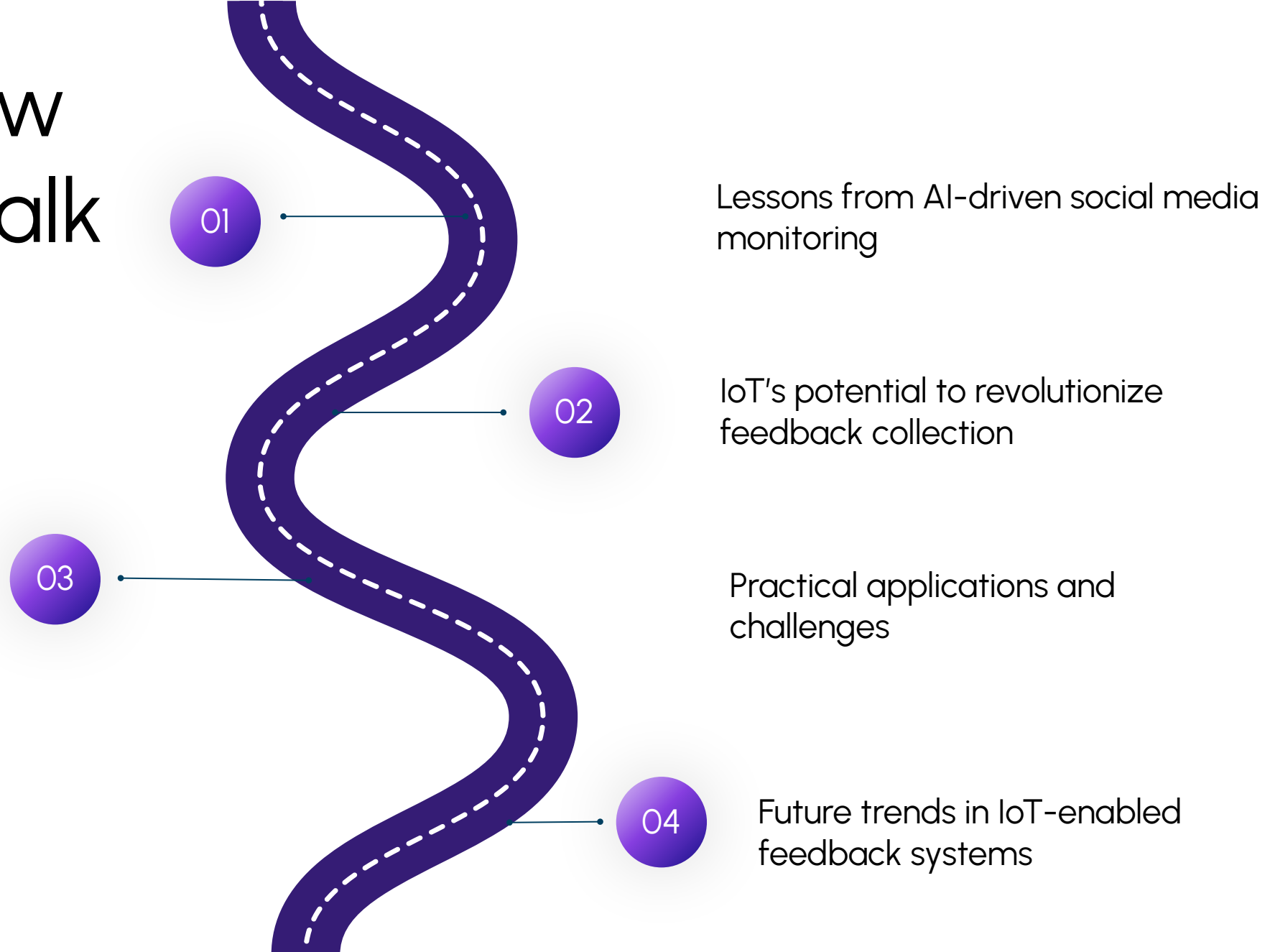YCH Blue Digital Ltd

Natalia Drazhnik

Product Owner

- Led CRM system for fintech.
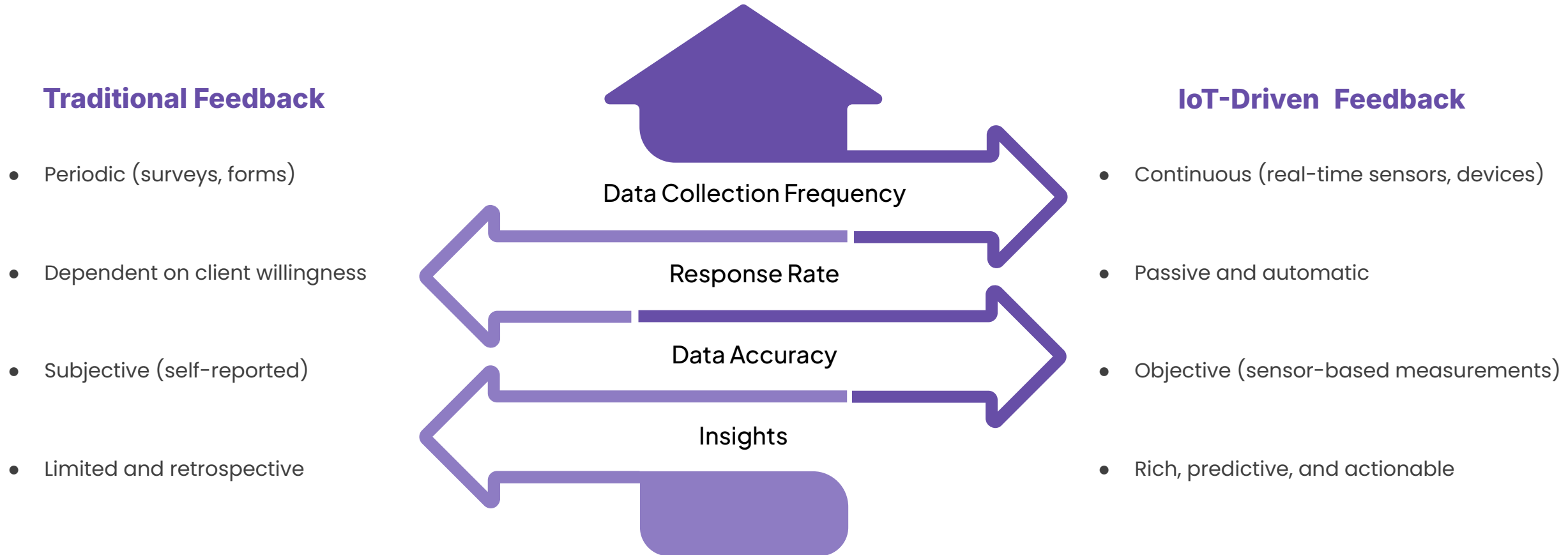- Built AI platforms for social media monitoring.

Transforming data into actionable insights.
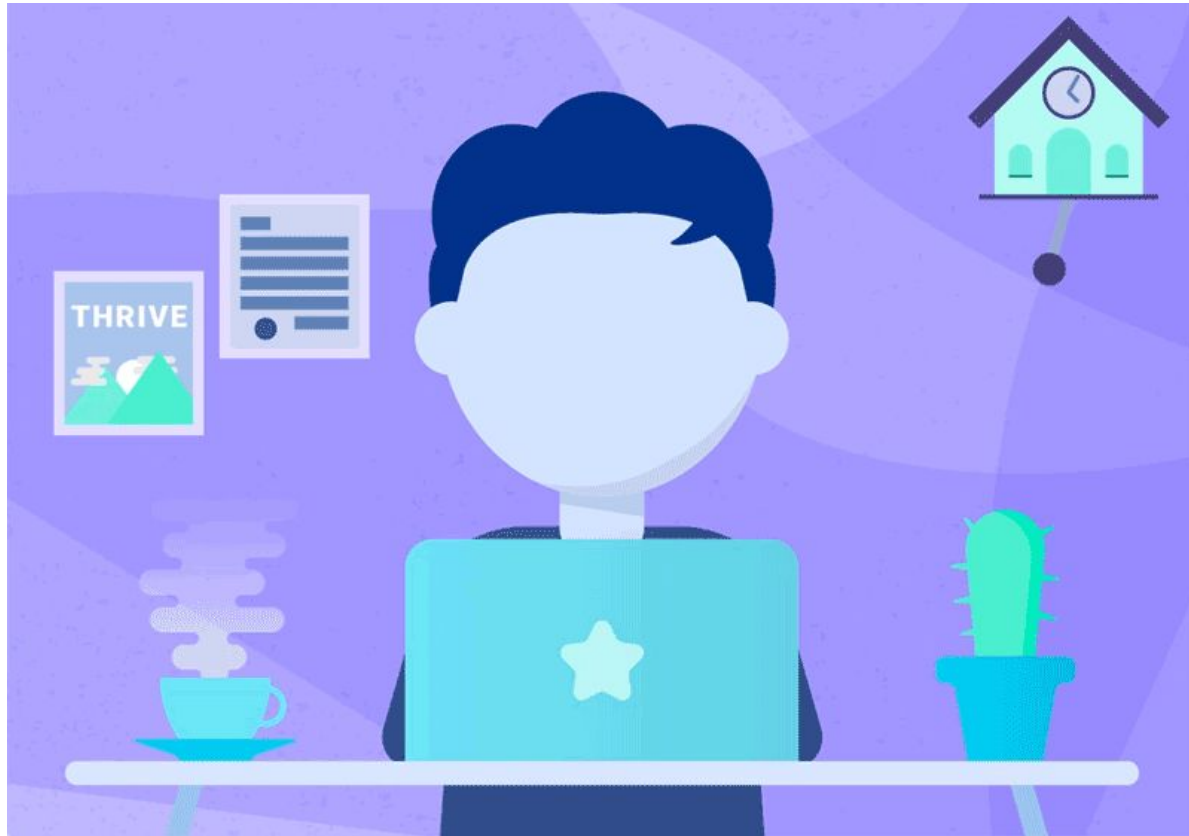
Overview of the Talk

01 Lessons from AI-driven social media monitoring

02 IoT's potential to revolutionize feedback collection

03 Practical applications and challenges

04 Future trends in IoT-enabled feedback systems

Key Question:

How can IoT redefine client feedback collection, complementing traditional methods?

Traditional Feedback

IoT-Driven Feedback

Data Collection Frequency

Response Rate

Data Accuracy

Insights

- Periodic (surveys, forms)
- Dependent on client willingness
- Subjective (self-reported)
- Limited and retrospective

- Continuous (real-time sensors, devices)
- Passive and automatic
- Objective (sensor-based measurements)
- Rich, predictive, and actionable

Traditional Feedback Challenges

- Surveys, interviews, and focus groups are time-intensive.
- Need for real-time insights from vast data.
- Scalability

The Solution - AI in Social Media Monitoring

AI Platform Features:

Collected data from social media channels.

Analyzed sentiment and trends using natural language processing.

Reputational risk quantification.

Coverage:

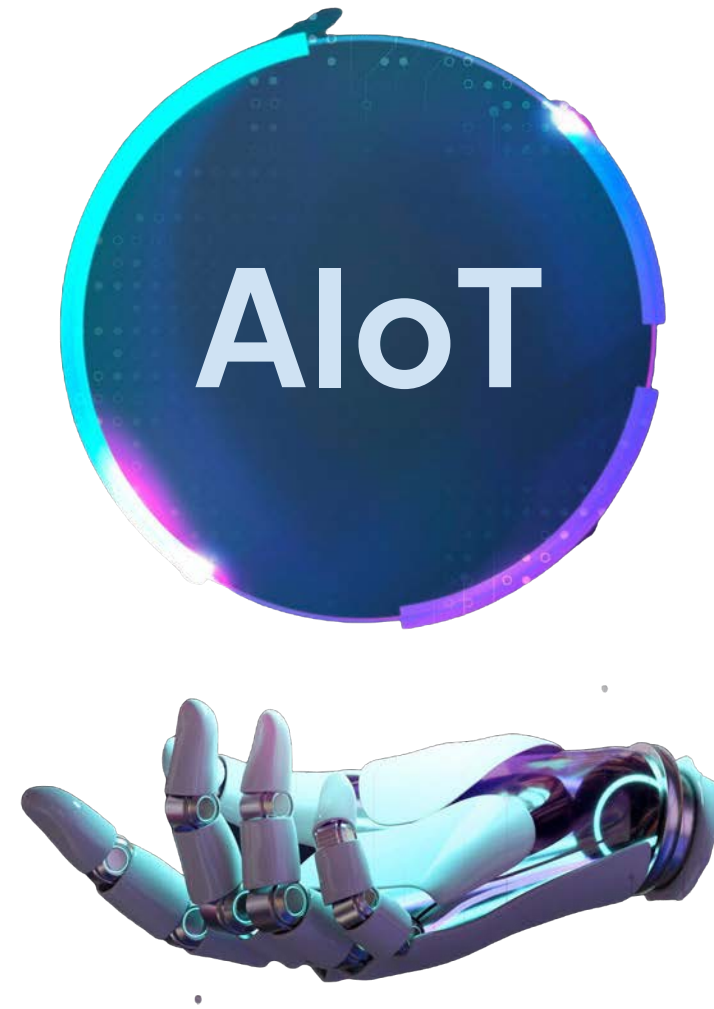**10% → 70%**

Response Time: Reduced by

60%

Created a formula to calculate

**reputational risk in monetary terms**.

Takeaway from **AI**
Social Media Monitoring

- AI transformed fragmented data into actionable insights.

- IoT offers similar opportunities but extends into real-world interactions.

AIoT

Why IoT for Feedback Collection?

- Traditional methods are reactive.
- IoT enables proactive, continuous feedback.
- Collects implicit (behavioral) and explicit (verbal) feedback.
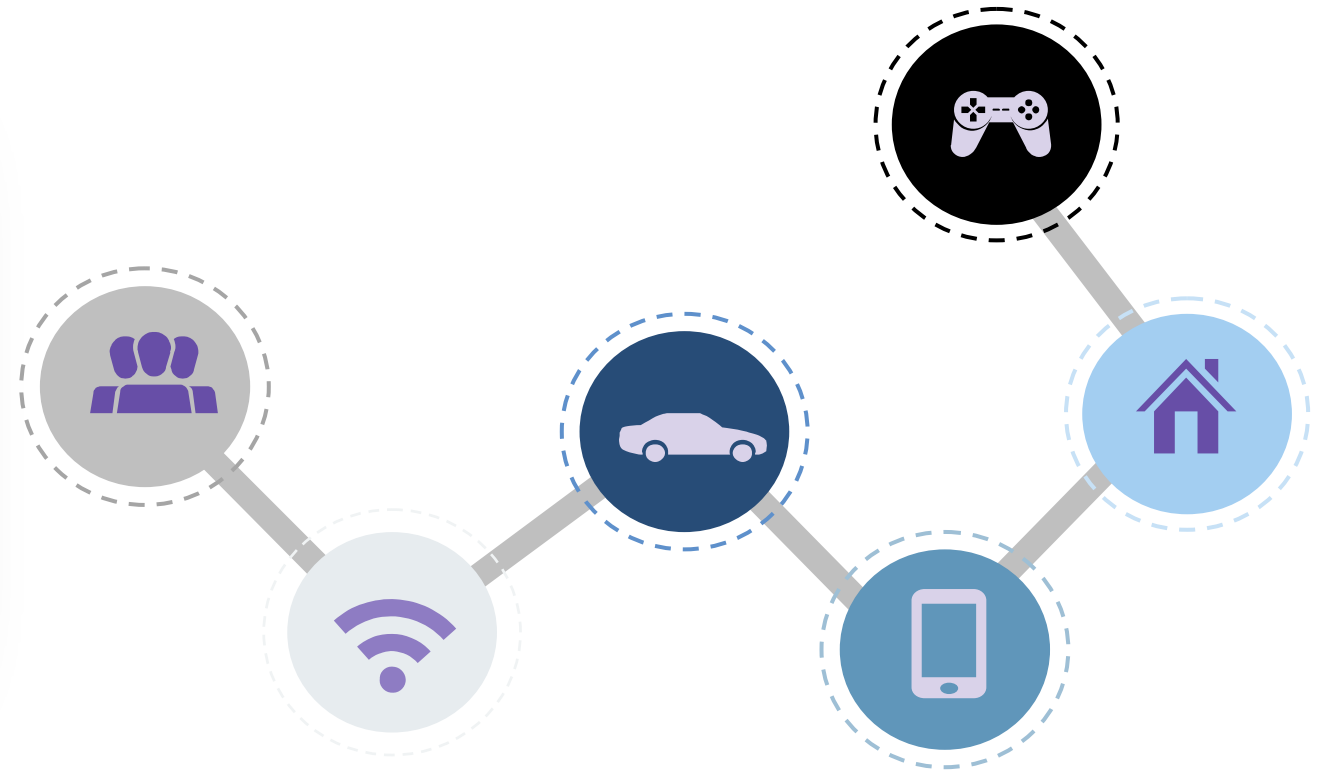
Example 1 - Smart ATM

IoT Implementation:
The ATM, equipped with microphones and natural language processing (NLP), detects and categorizes this verbal feedback.
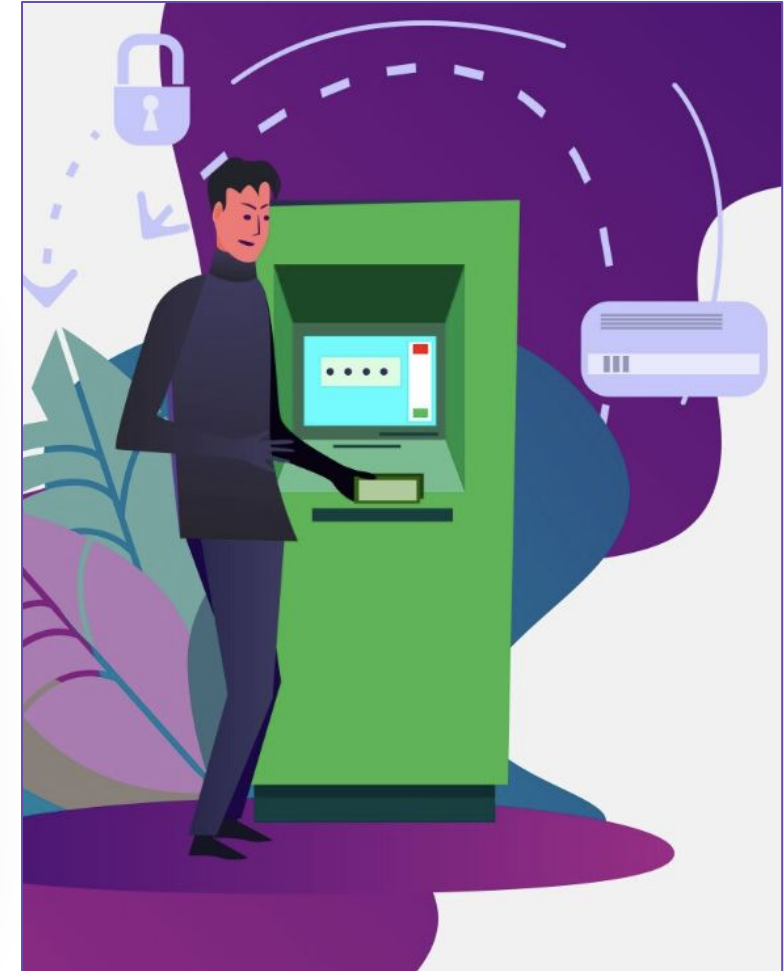
AI Analysis:

- **Tone and Sentiment:** Categorizes frustration, sarcasm, or anger.
- **Behavioral Context:** Combines verbal feedback with transactional data to identify patterns (e.g., slow responses during peak hours).

Insights:

- Banks can highlight underperforming ATMs.
- Suggest operational improvements.

Example 2 - Smart Bank Office

In a smart bank office, IoT-enabled kiosks or screens assist customers with transactions, account inquiries, or loan applications. If a customer encounters a confusing interface or feels the service is slow, they might say, **"Why is this taking so long**?" or show frustration through aggressive tapping on the screen.

AI Analysis:

- **Voice and Gesture Recognition:** Detects frustration or dissatisfaction in tone or interaction style.
- **Transaction Data:** Links the feedback to specific processes, such as loan application delays.

Insights:

- Real-time assistance for customers.
- Workflow improvements for bank managers.

Benefits of IoT Feedback Systems

Real-Time Feedback

✓ Captures unfiltered insights during the service experience.

✓ Enables immediate responses to enhance satisfaction.

Rich Behavioral Data
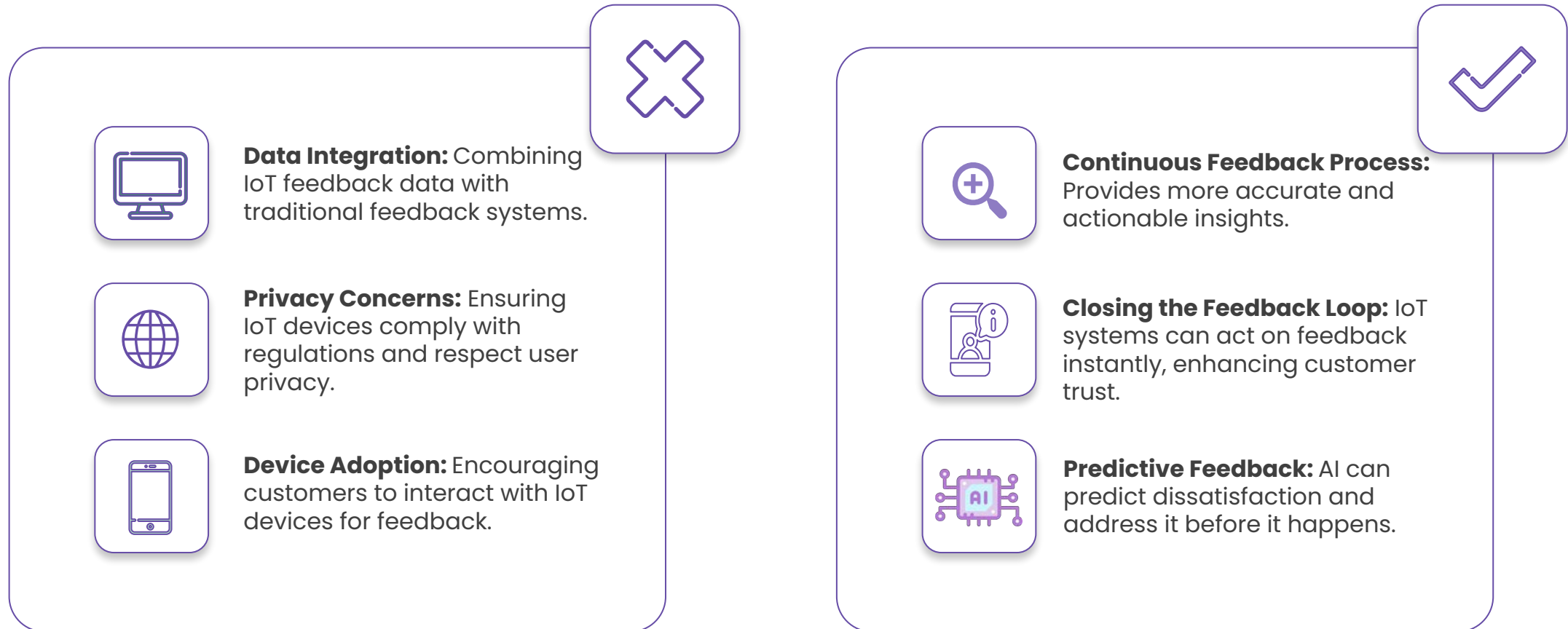
✓ Analyzes touch patterns and interaction times.

✓ Provides deeper insights beyond verbal feedback.

Proactive Improvements

✓ Detects trends before issues escalate.

✓ Optimizes resource allocation effectively.

Challenges and Opportunities

Data Integration: Combining IoT feedback data with traditional feedback systems.

Privacy Concerns: Ensuring IoT devices comply with regulations and respect user privacy.

Device Adoption: Encouraging customers to interact with IoT devices for feedback.

Continuous Feedback Process: Provides more accurate and actionable insights.

Closing the Feedback Loop: IoT systems can act on feedback instantly, enhancing customer trust.

Predictive Feedback: AI can predict dissatisfaction and address it before it happens.

The Future of Feedback Collection with IoT

Emerging Trends:

Hyper-Personalization

IoT and AI working together to deliver tailored responses to individual feedback.

Predictive Feedback

Using IoT data to anticipate client needs or dissatisfaction before feedback is given.

Call to Action:

Companies must invest in IoT-enabled feedback systems to stay competitive. Collaboration between IoT developers, data scientists, and business strategists is critical to making this a reality.

AI-Driven Design

Redesigning products or services based on real-time feedback trends.

Key takeaways

AI-driven platforms transform unstructured data into clear, actionable insights.

Turning Data into Insights

IoT enhances feedback collection with richer, immediate, and interactive data.

IoT: Real-Time Feedback Revolution

Combining IoT and AI allows organizations to act proactively and respond smarter.

Empowering Actionable Intelligence

The intersection of AI and IoT defines the future of client feedback systems.

Vision for Innovation

Thank You

The future of client feedback collection lies at the intersection of AI and IoT

-Natalia-

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