Customer IAM

Fundamental difference & Lessons from real-world case of modernization

TIIME 2020 / Jukka Lauhia of KPMG

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Customer IAM on Digital Identity landscape
Digital Identity

Workforce Identity and Access Management

B2B Identity and Access Management

Business partners

B2B customers

Privileged and shared accounts

Consumers

Identity and Access Governance and Administration (IAG)

Privileged Access Management (PAM)

Consumer Identity and Access Management (CIAM)
Dimensions of modern Digital Identity and Access Management

IT landscape and ways of working have faced drastic changes in recent years. Cloud transformation, workforce mobility, and extension of partner networks and alliances are placing new demands for IAM processes and solutions.

Today developing IAM capabilities requires holistic approach, that covers all options for hosting and sourcing applications and services, all access channels enabling mobility and IoT, as well as all user populations.

Holistic approach is needed not only for ensuring security and compliance, but opportunities include also increased operational efficiency and better user experience.

“When defining Digital Identity Strategy, look for complete identity landscape instead of separate silos for internals, externals and customers.”
Customer Identity is not really Governance, except a bit
Factors of Identity and Access Management

3 Pillars of IAM Strategy

ONBOARDING

AUTHENTICATION

AUTHORIZATION

People

Resources

Access

Environment

Governance
Digital identity is created by the centralized IAM solution. Employee, external and contractor master data is updated online from the HR Master system. External / Contractor master system may also be the Centralized IAM Solution.

Identity and access rights are removed from all systems when persons employment/contract is terminated.

Mandatory access request is launched to the (new) manager when persons employment / contract terms change, i.e. position / location / organization / status changes.

Regular access review campaigns by managers / application owners.

Person information (name, email address, phone number), employment information (start date, end date, manager, location, organization, position, change in employment)

Only if they need access to internal applications

Only if they need access to internal applications

EMPLOYEES

EXTERNALS, CONTRACTORS

CUSTOMERS

IOT, ROBOT IDENTITIES

Best Practice for Identity and Access Management

Birth right roles based on e.g. location, organization and position, self service portal with keyword search

OPTIONAL 2nd and 3rd LEVEL APPROVAL

MANAGER APPROVAL

CENTRALIZED IDENTITY SOLUTION
Fundamental Difference of CIAM
In the beginning, spring 2016... There was IBM Reverse-Proxy based Workforce Access Management product in place. There was an HTML-form for log-in and a phone number for forgotten password... There was some applications deployed for consumers to look at their usage stats and some applications for corporate clients and cities to forecast the price of electricity available...
Why did they want the change

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>TECHNOLOGY</th>
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<tbody>
<tr>
<td>• Non-existing connection with sales process</td>
<td>• End-of-Life approaching solution with reverse proxy</td>
</tr>
<tr>
<td>• Loaded in-house customer support team</td>
<td>• All applications are deployed within corporate network</td>
</tr>
<tr>
<td>• No possibility to develop customer relations</td>
<td>• Slow and complex development and deployment</td>
</tr>
<tr>
<td>• No possibility to support current of future business requirements</td>
<td>• Heavy licensing model</td>
</tr>
<tr>
<td>• i.e Charge &amp; Drive / Solar power back to grid</td>
<td>• Unable to integrate with CRM data</td>
</tr>
<tr>
<td>• Impossible to get insights via analytics</td>
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</table>

“We need to find a way to be more meaningful than just a plug on a household wall”
Fundamental Difference of CIAM

ENTERPRISE IAM
- Medium to Large
- Centralized
- Business
- Captive
- Limited & Structured

CUSTOMER IAM
- Massive
- Distributed
- Individual
- Volunteer
- Vast & Unstructured

SCALE
CONTROL
FOCUS
AUDIENCE
DATA
Customer IAM and Customer Engagement

Connect
- Registration
- Social Profiles
- Engagement

Collect
- Profile Management
- Regulation & Compliance
- Identity Data Enrichment

Convert
- Customer Insights
- Identity Analytics
- Marketing Automation

Retain
- Loyalty
- Preference Management
- Advertising
• Customer Identity, in its broadest scope, contains a full 360-degree view to your customer, to be used for better CX and in analytics.

• In many organizations the customer identity data is spread across silos that prevent utilizing it.

• Customer identity management provides means to collect, manage, and utilize this data.

• Customer Identity is about personally identifiable information (PII) and is regulated by GDPR.

What is customer identity?

- Preferences and interests
- Profile information
- Identification and authentication
- Payment information
- Behavioral data
- Consents
- Relationships
- Connected identities
Customer Identity Management Benefits

- 360° view to customer
- Effective marketing
- Security
- Increased conversion rate
- Loyal customers
- Data protection
Digital business needs to be increasingly customer-centric. Shoe-maker already knows how to create loyal customers.
• Becoming familiar with customer in digital domain requires similar approach as in physical dealings.

• First contact is preferably just a login with social media account.

• As customer’s commitment deepens, more questions can be asked – preferably in context with customer’s activities.

• Trust is a two-way street. Being not too intrusive builds trust, which in turn helps in getting more data.
From anonymous to known

Awareness ➔ Consideration ➔ Conversion ➔ Retention ➔ Advocacy

- Anonymous interactions
- Light registration
- Full registration
- Progressive profiling
- Enriching customer profiles

Consent management

Customer & social profile data

Profile and preference management

- Initial contact
- Connected with customer
- Better personalization
- “Friendship”
# Customer journey and identity

<table>
<thead>
<tr>
<th>Customer’s actions</th>
<th>Value of Customer Identity Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial contact</strong></td>
<td></td>
</tr>
<tr>
<td>Unknown user ends up on the e-commerce site campaign landing page using home PC. Behavioral data, such as the campaign, is collected.</td>
<td></td>
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<tr>
<td>User is asked to connect with site using her Facebook identity. A discount code is given in exchange.</td>
<td></td>
</tr>
<tr>
<td>Initial identity is created based on Facebook attributes and collected behavioral data is connected to it.</td>
<td></td>
</tr>
<tr>
<td><strong>Returning prospect</strong></td>
<td></td>
</tr>
<tr>
<td>Later user returns to the site with same device and is readily identified thanks to the social login session.</td>
<td></td>
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<tr>
<td>As she browses interesting products, she is asked kindly to tell a couple of thing regarding her interests in the context of her actions on the site.</td>
<td></td>
</tr>
<tr>
<td>Customer is known a bit better as progressive profiling is used to enrich the identity.</td>
<td></td>
</tr>
<tr>
<td>The 1st party data is used to make engagement more personal and meaningful by making data available to e-commerce platform, recommendation engines, etc.</td>
<td></td>
</tr>
<tr>
<td>Device and channel switch</td>
<td>Customer’s actions</td>
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<td>--------------------------</td>
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<tr>
<td></td>
<td>Later user returns the site with her smartphone. From e-commerce platform's standpoint user is totally new. She taps the social login to continue where she was left.</td>
</tr>
<tr>
<td></td>
<td>User can continue shopping seamlessly where she left on PC.</td>
</tr>
<tr>
<td>Payment</td>
<td>Returning user decides to pay digital goods. She has stored credit card details before. To complete check-out she is requested to authenticate herself.</td>
</tr>
<tr>
<td></td>
<td>A request to approve purchase appears in mobile app provided by the company. User simply swipes the screen and goods are delivered to customer.</td>
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</tbody>
</table>

**Customer’s actions**

- Later user returns the site with her smartphone. From e-commerce platform's standpoint user is totally new. She taps the social login to continue where she was left.
- User can continue shopping seamlessly where she left on PC.

**Value of Customer Identity Management**

- Thanks to easy login device change and possible channel switch to mobile site is seamless.
- Same 1st party identity data and behavioral data from another device is available right after logging in.
- Easy-to-use strong authentication method is used to mitigate risk and build trust in consumer, without harming the customer experience.
Customer identity management technologies are used to make vision come true, but only after vision exist.

- Customer identity management enables customer-centricity in all digital channels.
- Designing customer identity management process hand-in-hand with customer journey will raise conversion rate and enhance customer loyalty.

### Capabilities towards Customer-Centricity

<table>
<thead>
<tr>
<th>Seamless channel transitions</th>
<th>Social login</th>
<th>Single sign-on</th>
<th>Social registration</th>
<th>Preference management</th>
<th>Progressive profiling</th>
<th>Marketing automation</th>
<th>Personalization</th>
<th>Consent management</th>
<th>Right to be forgotten</th>
<th>Control and transparency</th>
<th>Privacy and compliance</th>
<th>Customer identity management</th>
<th>Acquiring customer data</th>
<th>Trust and risk</th>
<th>Adaptive authentication</th>
<th>Strong authentication</th>
<th>e</th>
<th>n</th>
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- Customer identity management enables customer-centricity in all digital channels.
Overview and lessons of a real world CIAM -case
# Client Company

Customer is a leading clean-energy company that provides its customers with electricity, heating and cooling as well as smart solutions to improve resource efficiency. They want to engage their customers and society to join the change for a cleaner world. They employ some 8,000 professionals in the Nordic and Baltic countries, Russia, Poland and India. Their share is listed on Nasdaq Helsinki.

<table>
<thead>
<tr>
<th>Business</th>
<th>Generation</th>
<th>City Solutions</th>
<th>Consumer Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Generation is responsible for Nordic power production. The division comprises nuclear, hydro, wind, and thermal power production, as well as power portfolio optimization, trading, Industrial intelligence, and nuclear services globally.</td>
<td>City Solutions is responsible for developing sustainable solutions for urban areas into a growing business. The division comprises heating, cooling, waste-to-energy, biomass, and other circular economy solutions as well as solar power production. The business operations are located in the Nordics, the Baltic countries, and Poland. The division also includes Fortum’s 50% holding in Stockholm, which is a joint venture and is accounted for using the equity method.</td>
<td>Consumer Solutions comprises electricity and gas retail businesses in the Nordics and Poland, including the customer service, invoicing and debt collection business. Fortum is the largest electricity retail business in the Nordics, with approximately 2.5 million customers across different brands in Finland, Sweden, Norway and Poland.</td>
</tr>
<tr>
<td>Drivers</td>
<td>Nordic power price, generation volumes, Availability</td>
<td>Fuel mix, heat and power price, gate fees</td>
<td>Electricity sales, competition, customer base</td>
</tr>
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</table>

| Drivers  | Nordic power price, generation volumes, Availability | Fuel mix, heat and power price, gate fees | Electricity sales, competition, customer base |
Customer IAM system layers and ecosystem

Customer IAM Service is built and maintained by KPMG. All systems are deployed in the public cloud service.

Customer Organization manages users and application access. No sensitive customer data distributed outside corporate network.

Trusted Authentication Providers (Local Banks, Telco, Social Media) May also provide profile information for registration process.

Application Service Providers host the application in their respective data centers. End-users experience Single Sign-On between all applications.

E.g., REST –services in cloud platforms.

This Energy Company uses KPMG service to provide millions of users managed access to its web-based applications.
CIAM Solution

Registration and social identity

Preference management

Progressive profiling

Innovative identification and authentication

Cross-channel single sign-on

Customer Identity

Control over shared data

Transparency of data and its processing

Trust

Enhanced Customer Experience

Personalization and recommendation

Data management

Web analytics

Marketing automation and email marketing

Customer service

Customer Identity

Trust

Control over shared data

Transparency of data and its processing

Enhanced Customer Experience
Example of distributed CIAM Architecture

Cloud Services

Application Services

REST Services

Customer Browser / App
Mobile App / SPA

CIAM Service

Application Firewall

Internet Portal eg SharePoint

Conventional online services

Potential & Future Use-Cases

Smart TVs & Mobile Devices
Home Appliances & Smart meters
Content Delivery & Locating
Process Automation & Robots

Conventional Use-Cases

B2B Extranet
Webshop
Reporting Services
ERP & CRM
## But what did we learn?

### APPLICATION INTEGRATIONS

We managed to create a capability to deploy and integrate any application wherever in the internet via OpenID Connect (and SAML2) so marketing is able to order any bell and whistle wherever they like and it will be compatible. Some restrictions still exist in the look & feel section of the login portal.

### INTEGRATIONS TO CRM

There is 1:1 visibility with corporate customer database and their agreements no matter if they are households, corporations or charge & drive clients. Customer Master Data cleansing made CRM project smoother data-wise.

### CONNECT THE SALES FORCE

Mobile app availability via OpenID Connect to provide capability to run marketing campaigns via coupons, such as “1 hour charge when you buy Big Mac meal”. Also as there is sales persons in shopping malls marketing and selling agreements, the CIAM solution was their interface to billing systems and CRM.

### MAKE SURE YOUR SERVICE WILL BE NOTIFIED!

But something to learn and build upon: Make sure to help the client RUN-team to market internally the solution; once IT system is live, it is out of the “cool radar”, meaning that you need to keep it visible to new solutions will use it.
### Other observations

<table>
<thead>
<tr>
<th>LOOK &amp; FEEL COMES FIRST</th>
<th>API CONNECTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>No matter how fancy list of features your selected tool has, but look for configurability especially in the look &amp; feel –area. There is always marketing in charge, so the layouts will be changes frequently.</td>
<td>API support is the passport for both longevity of the solution as well as likeability from developer perspective.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUDGETING</th>
<th>MASTER DATA IS A MESS</th>
</tr>
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<tbody>
<tr>
<td>In complex, multi-vendor environment we spent quite a bit more time than expected to train application providers to use and benefit SAML2 or OpenID-Connect –protocols.</td>
<td>As customer and consumer data is gathered over many many years, via siloed applications, it means that there is A LOT to do in cleaning and processing the existing user data. You just can’t ask users to enter their information again, right! What about migration of passwords?</td>
</tr>
</tbody>
</table>
## Managing and using customer data – key points

<table>
<thead>
<tr>
<th>MANAGE</th>
<th>USE</th>
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</thead>
<tbody>
<tr>
<td>• Connecting data from different sources</td>
<td>• E-mail marketing</td>
</tr>
<tr>
<td>• Reconciliation of data</td>
<td>• Marketing automation</td>
</tr>
<tr>
<td>• Data retention and purging</td>
<td>• Data management and ad serving</td>
</tr>
<tr>
<td>• Enforcing consent when using the customer data</td>
<td>• Web analytics</td>
</tr>
<tr>
<td>• Synchronizing customer data downstream to marketing, sales and</td>
<td>• E-commerce and CMS</td>
</tr>
<tr>
<td>other services</td>
<td>• Recommendation and personalization</td>
</tr>
<tr>
<td>• Identify data sensitivity and identifiability and</td>
<td>• Synchronize data between different systems</td>
</tr>
<tr>
<td>process data accordingly</td>
<td>• maintaining master data in customer identity management.</td>
</tr>
<tr>
<td>• Formal, technical and perceived impact on emotional level</td>
<td>• Control over data</td>
</tr>
<tr>
<td>• Low sensitivity and identifiability: customer segment</td>
<td>• Data governance</td>
</tr>
<tr>
<td>• High both: social security number</td>
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Wrap-up
Questions and Comments!!
How do I improve user and customer experience?

How do I cope with GDPR?

How do I manage risk without compromising user experience?

How do I make customer engagement more personal and meaningful?

How can I enhance my business model to be more competitive?

How can data help me look at my business in new and innovative ways?

How do I make better and faster business decisions?

How do I build trust in customers?

How do I enable seamless omni-channel experience?

How do I increase conversion rate and reduce churn rate?

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How do I build trust in customers?

How do I enable seamless omni-channel experience?
Get customer’s e-mail address and consent for marketing and profiling. Create initial identity.

Profile customer on web complying with received consent and connect data to initial identity.

Connect user with low-friction way and receive initial customer data. Connect with light registration profile data.

Collect preferences and enrich identity with progressive profiling. Use customer identity for personalization.

Provide customer identity for personalization and recommendation. During check-out, collect more data to enrich identity.

Use up-to-date profile data to provide highly targeted e-mail communications.

Provide meaningful content with digital identity, enable seamless channel switch between mobile and web. Enrich identity.

Personalize with digital identity available in brick and mortar, e.g. with mobile app or personnel’s digital devices.

Awareness ➤ Consideration ➤ Conversion ➤ Retention ➤ Advocacy
Consent lifecycle management

- Receive
- Version control
- Audit
- Enforce
- Self-service revoke
- Self-service review
Lawfulness of processing, GDPR

- Consent
- Contract
- Legitimate interest
- Legal obligation
- Vital interest
- Public task
Clear and informed consent is required for all data and its processing.

Customer data is many times sorted in several silos which are non-compliant by nature.

Lack of governance when sharing data with third parties.
• Customer Identity connects devices, channels and assets for consistent customer experience.

• With customer identity context is not lost when switching from a device to another.

• With customer identity transition from a channel to another is seamless for customer.
Customer engagement can be evaluated in two dimensions:

- Single vs multi-session and channel
- Segmentation vs. individual
Registration

Objectives:
✓ Connect with customer
✓ Collect information from customer

Challenges:
✓ Bad registration procedures lower conversion rate.
✓ All needed information cannot be get at once.
Form design

**Registration**
- First name
- First name
- Email
- Phone
- Date of birth
- Interests: Cars, Pets, Utensil
- Password

**Sign up for free delivery!**
- Full name
- Email
- Password

- Sign-up and get a code for free delivery

**Up to 100% higher conversion rate.**
Social registration

Sign up for free delivery!

Sign-up with your existing identity

Or sign-up with your email

Email

Social registration benefits:
- Higher conversion rate
- Email is already verified
- Access to rich profile data
- Easy login for returning customers
- Up-to-date information
Registration best practices:

Progressive profiling

Please tell us your vacation preferences!
The information will be used to provide you a personalized experience and interesting offers.

- Trigger progressive profiling in appropriate moments, e.g. when user returns 3rd time or performs certain activities.
- Preferences or attributes.
- Tell how data will be used and ask for consent.

- [ ] Beach holiday
- [ ] European cities
- [ ] Family vacations
- [ ] Cruises
- [ ] Ski vacations
- [ ] Asian cities

Ready!
Give Power Back to Customers

Consent
Control of own data
Transparency