



AWSSOME DAY

ONLINE CONFERENCE

2025 | APJ



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Personalize content with generative AI and Amazon Personalize

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Agenda

1. Customer business objective
2. Use case study: personalized marketing content creation
3. End-to-end solution walk-through
4. Demo
5. Takeaways

Consumers expect personalized user experiences

Majority of consumers see 'personalization' as the standard level of service



Content monetization

Create personalized marketing campaign content and ads for an online travel agency that reflects the company's brand voice, look, and feel, while also engaging users and adapting to changes in inventory.

Additionally, assist the travel agency in generating personalized travel itineraries to boost business revenue.

Contextual data



Past trips



Web search history



Travel preferences



Flight and
hotel inventory

Monetization



Real-time personalization



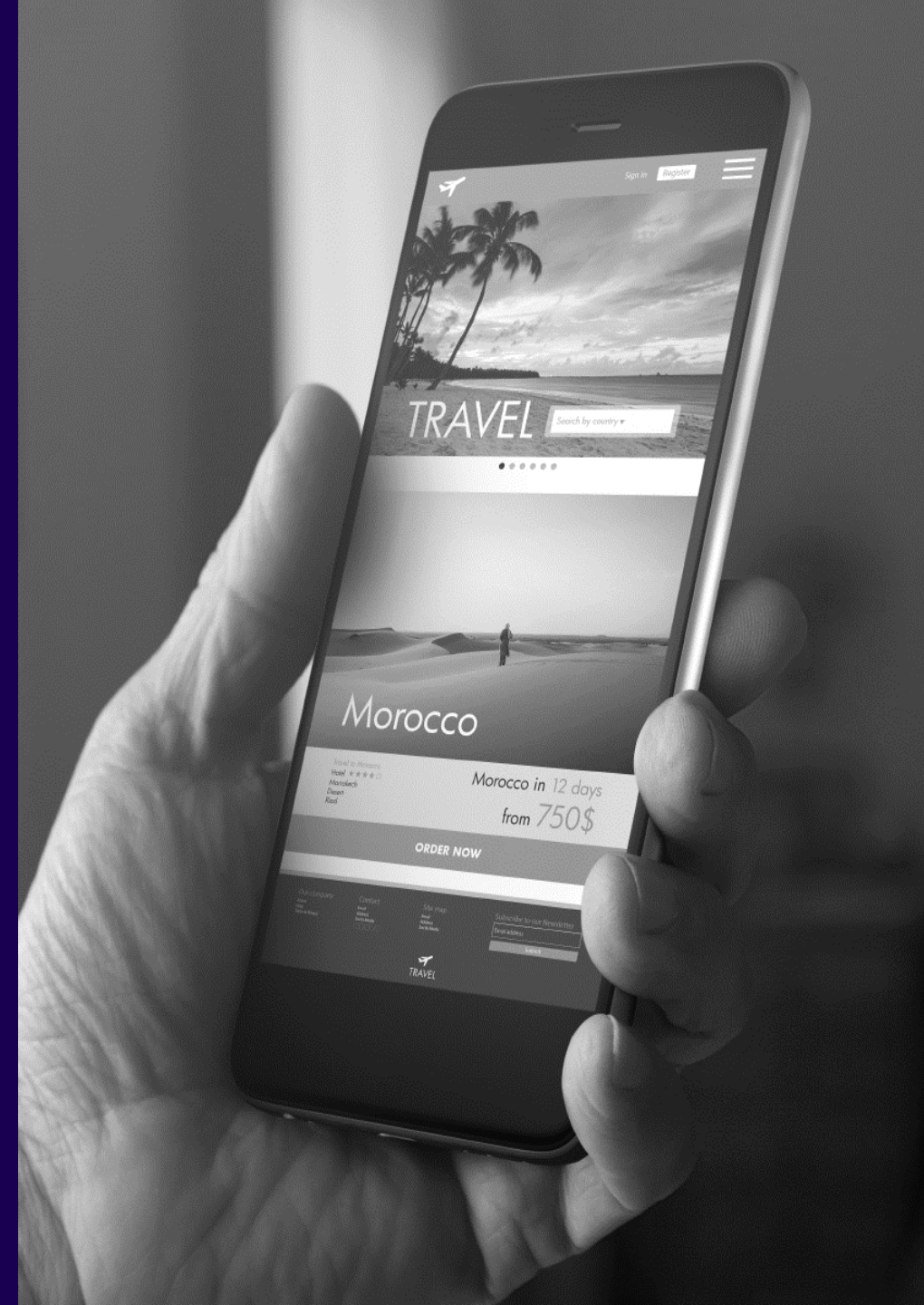
Campaign promotion



Personalized content



User segmentation



Unlock the power of personalization and generative AI for your customer experience

Personalization

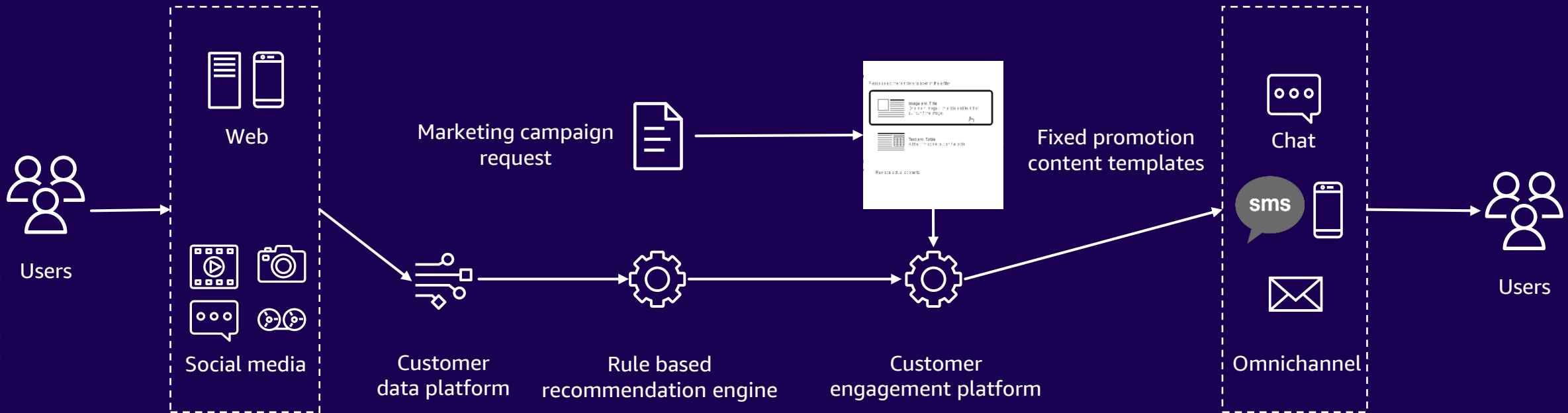
Recommend products and content based on unique user preferences

Generative AI

Generates personalized content for product recommendation, email, SMS, chat message, image, etc.

Use case study: personalized marketing content creation

Current customer marketing campaign pipeline



Pain points

Marketing team

Struggling to find out who to promote products to?

Marketing team

Currently sending campaigns to all - with the same content from pre-defined template.

Users

Users: "I'm not interested in this."

Customer feedback on challenges



Who are the
target users?

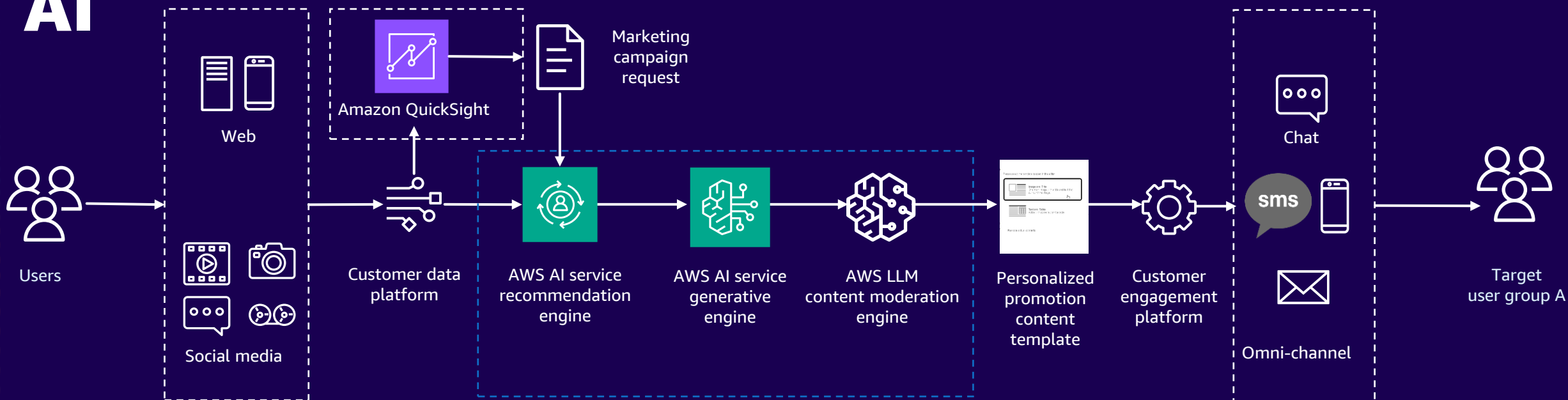


What interests
them?



How to get them
to click and buy?

Expanding by personalization and generative AI



New experience

Marketing team

Users

Use **Amazon Q in QuickSight** to support decision making of promotion campaign

Use **Amazon Personalize** to identify user group A who are likely interested in the product

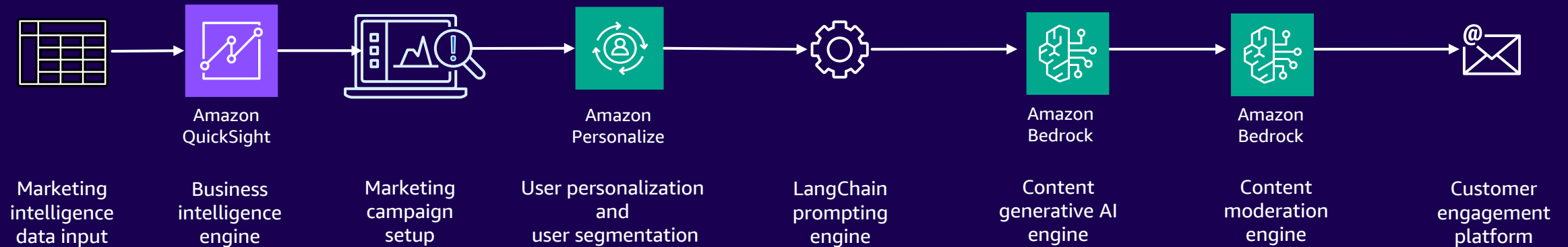
Use **Amazon Bedrock**, to use models generating personalized promotion content

Use **Amazon Bedrock** to ensure the content is compliant and well governed

Save the content to campaign system template for omnichannel promotion

"This is exactly what I want!"

End-to-end solution pipeline



- ✓ **Business intelligence engine:** Amazon Q in QuickSight: Generative BI
- ✓ **User personalization and user segmentation:** Amazon Personalize
- ✓ **Generative AI engine:** Amazon Bedrock using LLM foundation models
- ✓ **Content moderation engine:** Amazon Bedrock using Amazon Titan LLM foundation models

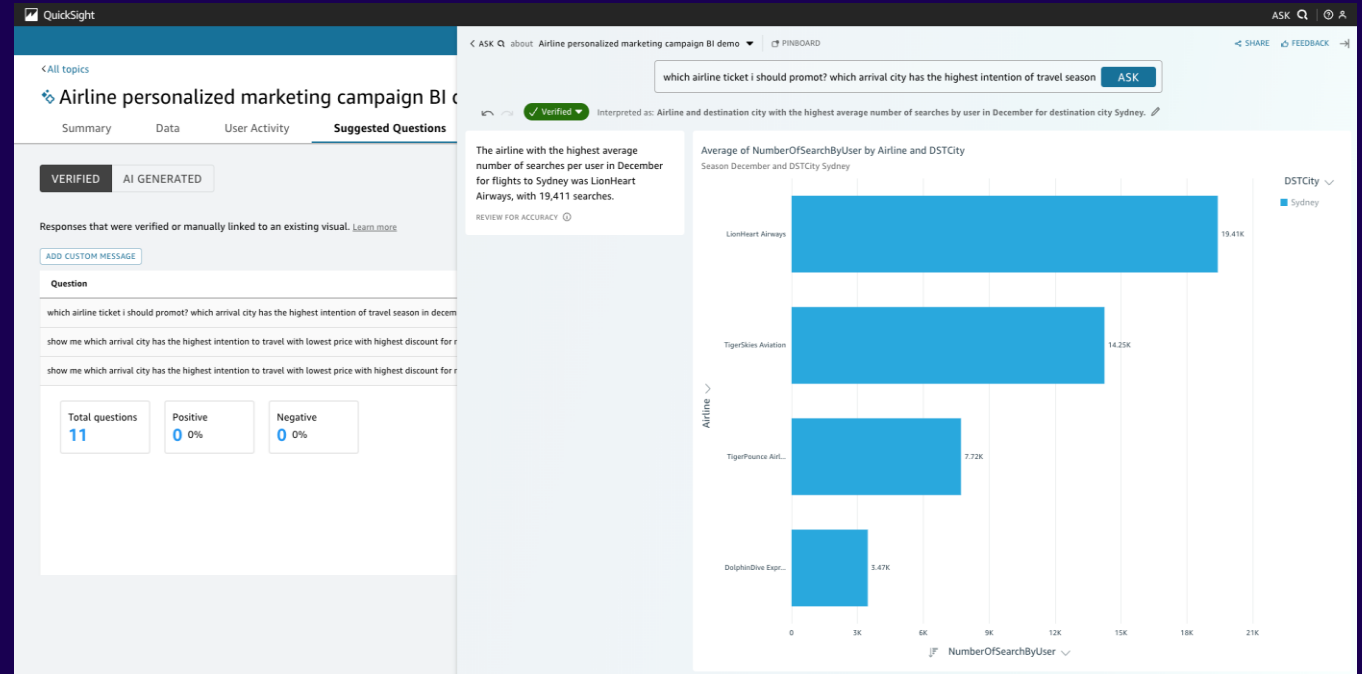
Business intelligence insights by Amazon Q in QuickSight

Marketing officer query:

"Which airline ticket should I promote?
Which destination city is most preferred by travelers in December, offering the greatest discounts for members?"

Amazon Q in QuickSight response:

"The airline with the highest average number of searches per user in December for flights to Sydney is LionHeart Airways, with 19,411 searches."



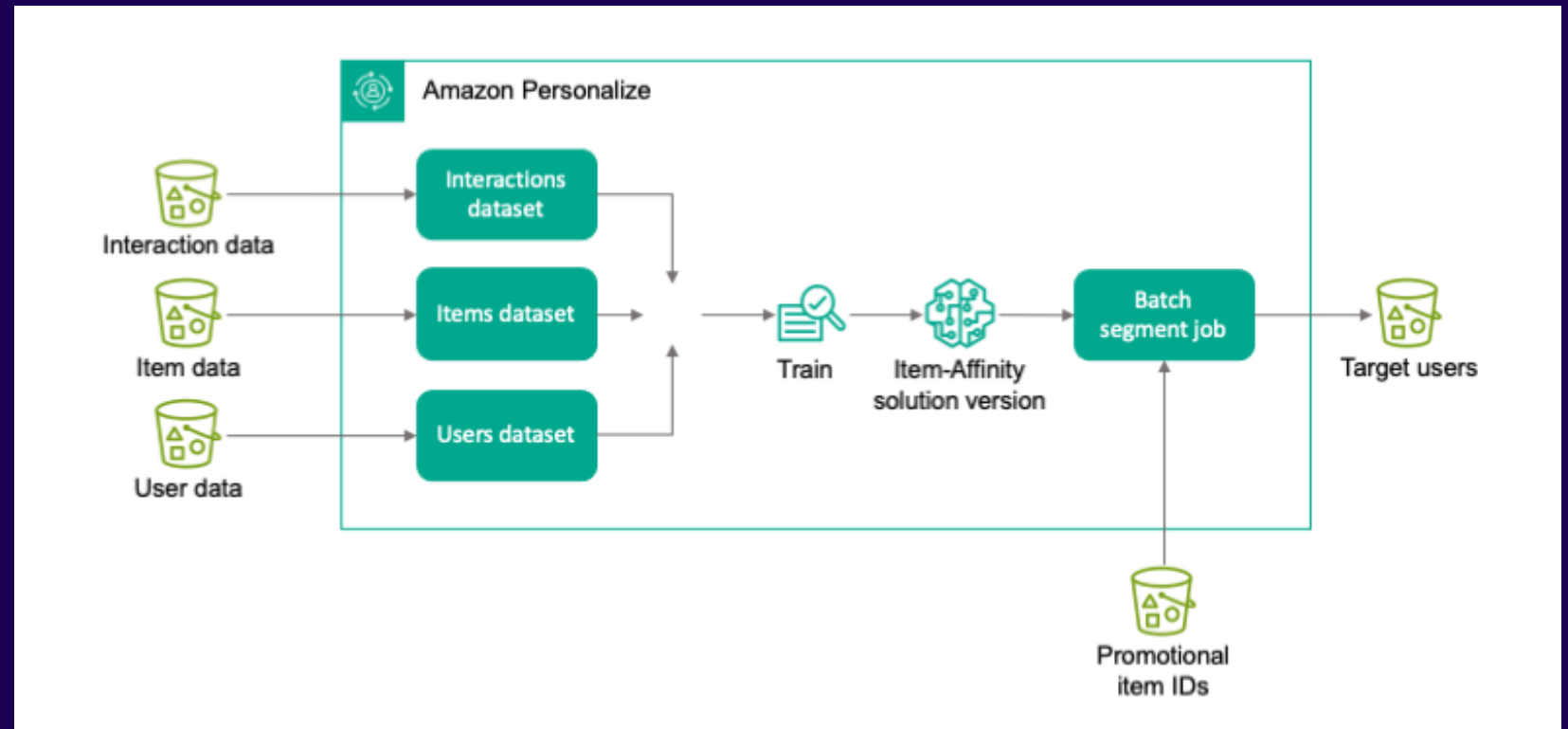
User segmentation with Amazon Personalize

Input request:

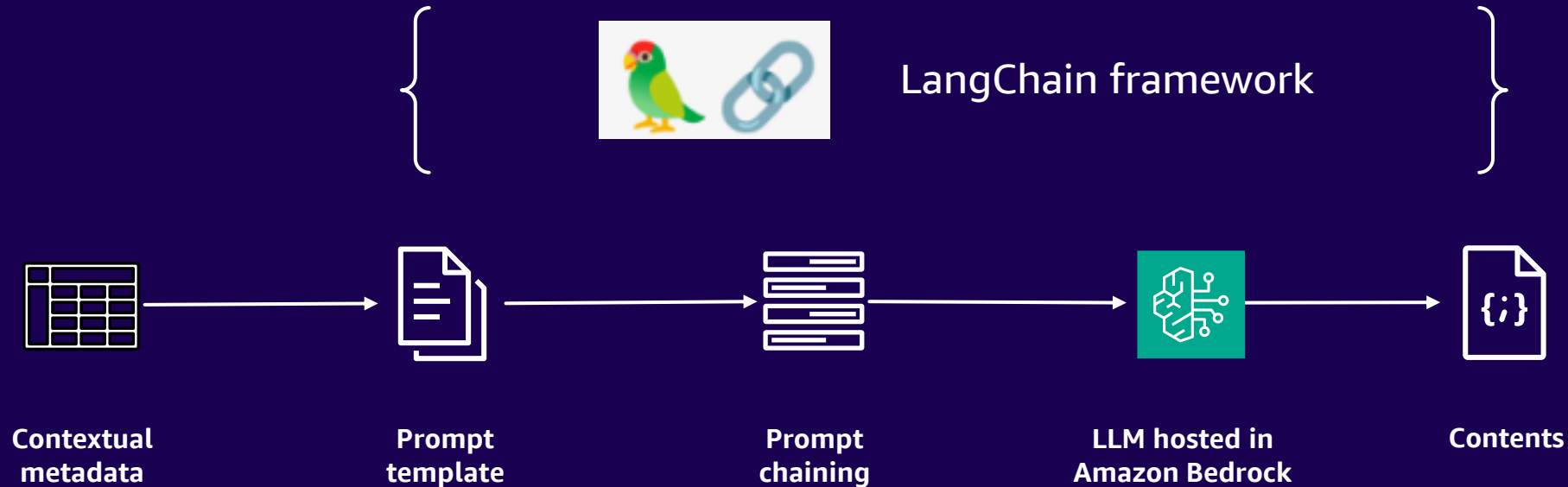
Flights to Sydney by
airline of LionHeart
Airways {itemid:aaaa};
by airline TigerSkies
{itemid:bbbb}, ...

Output user list:

Flights to Sydney by
airline of LionHeart
Airways
{userid:1111,2222,...};
by TigerSkies
{3333,4444...}, ...



Personalized content generation workflow



```
{ "ITEM_ID": "8465629878",  
  "DSTCity": "Hong Kong",  
  "SRCCity": "Kuala Lumpur",  
  "Airline": "TigerPounce Express",  
  "DurationDays": "10",  
  "Season": "October",  
  "DynamicPrice": 1171,  
  "DiscountForMember": 0.5}  
{"membership": "gold"}
```

```
{"Question": "Human: I will  
promote flight ticket of  
Airline {Airline}, from  
{SRCCity} to {DSTCity}, during  
{Season} 2023 for  
membership.....I want to  
generate an attractive e-mail  
template, including email title  
and body to promote the  
flight ticket,.....Assistant:"}
```

```
{ "Restaurants and Food":  
  ["Tim Ho Wan",  
   "Din Tai Fung",  
   "Lung King Heen",  
   "Yung Kee",  
   "Jumbo Kingdom",  
   "Mak's Noodle",  
   "Ho Lee Fook",  
   "Lin Heung Tea House",  
   "Mammy Pancake"]}
```



Dear John,

We're excited to offer you an incredible deal on flights to one of Asia's most vibrant cities - Hong Kong! TigerPounce Express is discounting tickets from Kuala Lumpur to Hong Kong in October by 50% when you enter the promotion code

Generate personalized electronic direct mail (EDM) of travel itineraries for the promotion flight ticket

Input data



Contextual metadata



Augmented metadata



Campaign questions

Output contents



Email title/body/banner



Email banner image



Travel itinerary



Escape to Hong Kong - 5 Days of Culinary Adventures and Cultural Exploration

Dear John,

We're excited to offer you an incredible deal on flights to one of Asia's most vibrant cities - Hong Kong! TigerPounce Express is discounting tickets from Kuala Lumpur to Hong Kong in October by 50% when you enter the promotion code -42930 at checkout.

Spend 5 unforgettable days sampling Hong Kong's legendary cuisine, taking in stunning scenery, and immersing yourself in local culture. Here is a suggested itinerary:

Day 1: Arrive in Hong Kong and spend the afternoon at Temple Street Night Market, indulging in local street foods.

Day 2: Start your morning at Tim Ho Wan or Din Tai Fung, known for their Xiaolongbao and other dim sum delicacies. Spend the afternoon exploring Victoria Peak for panoramic harbor views.

Day 3: Wander through Stanley Market and soak up the laidback atmosphere. Have high tea at the historic Lin Heung Tea House.

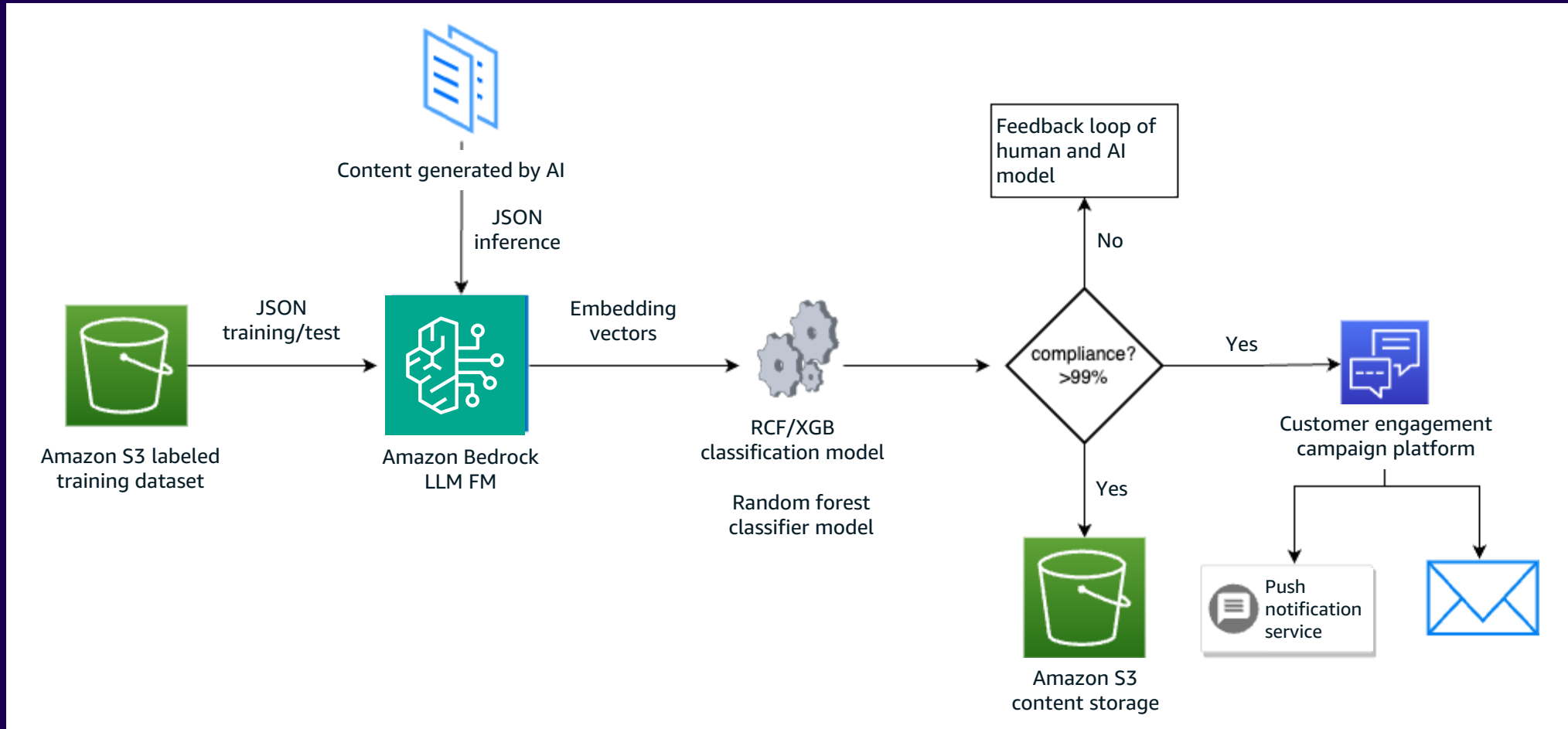
Day 4: Enjoy a day trip to Cheung Chau Island, stopping for seafood at restaurants along the waterfront.

Day 5: Indulge your sweet tooth at Australia Dairy Company or Teakha for homemade cakes and artisan teas. Dance the night away at bars in Lan Kwai Fong.

Don't miss this chance to experience the best of Hong Kong. Book your discounted flight today at <https://demobooking.demo.co> and use the code -42930. Let me know if you have any other questions.

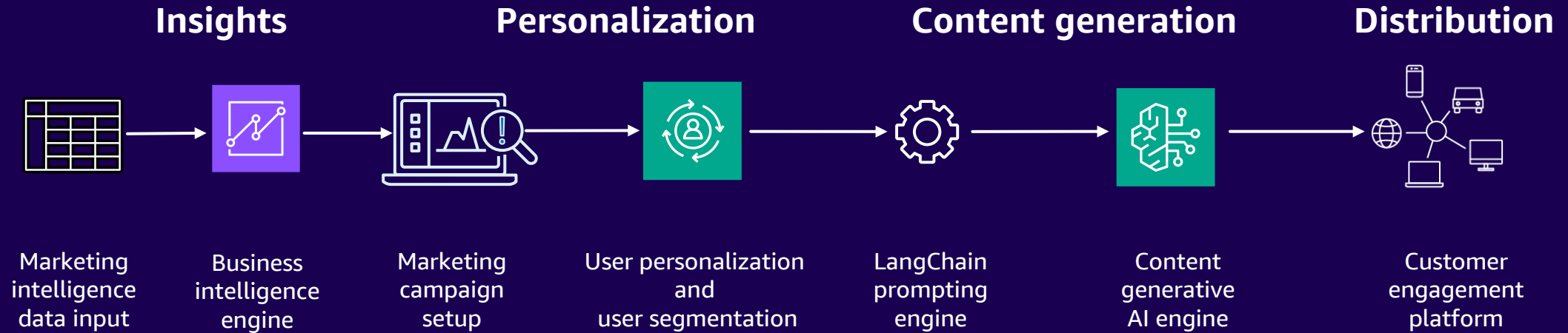
Best regards, [Your Name]

Content moderation

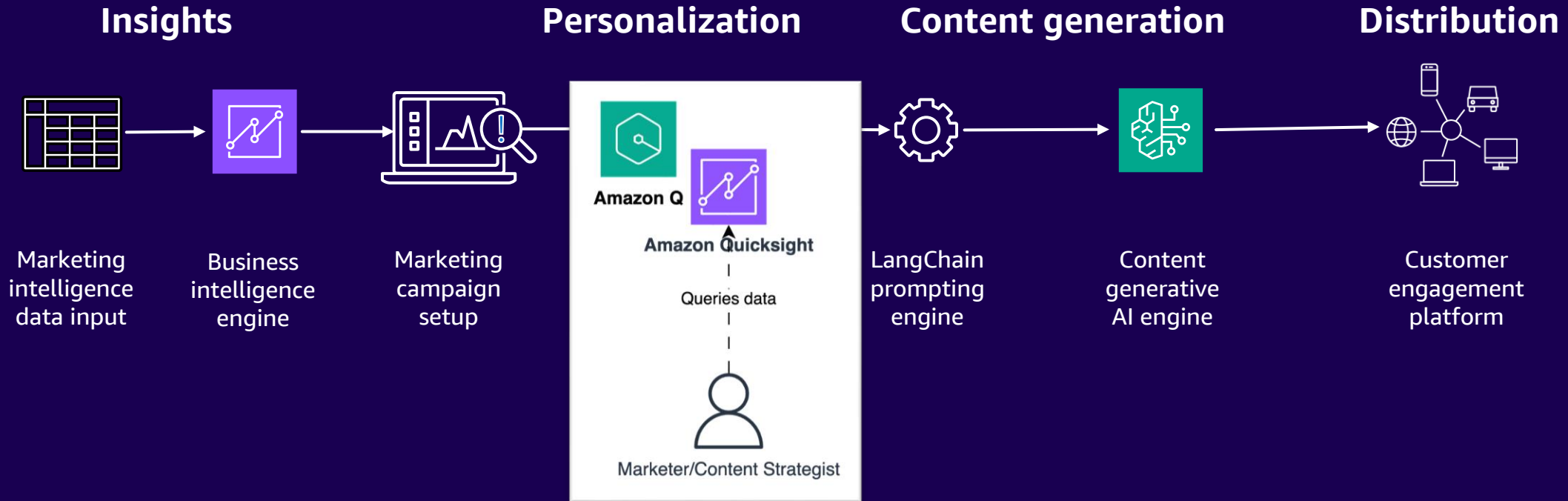


Demo architecture

End-to-end demo solution pipeline



Let's build it out: Insights



- Import marketing data into SPICE (Super-fast, parallel, in-memory calculation engine)
- Query data with natural language using Amazon Q in QuickSight

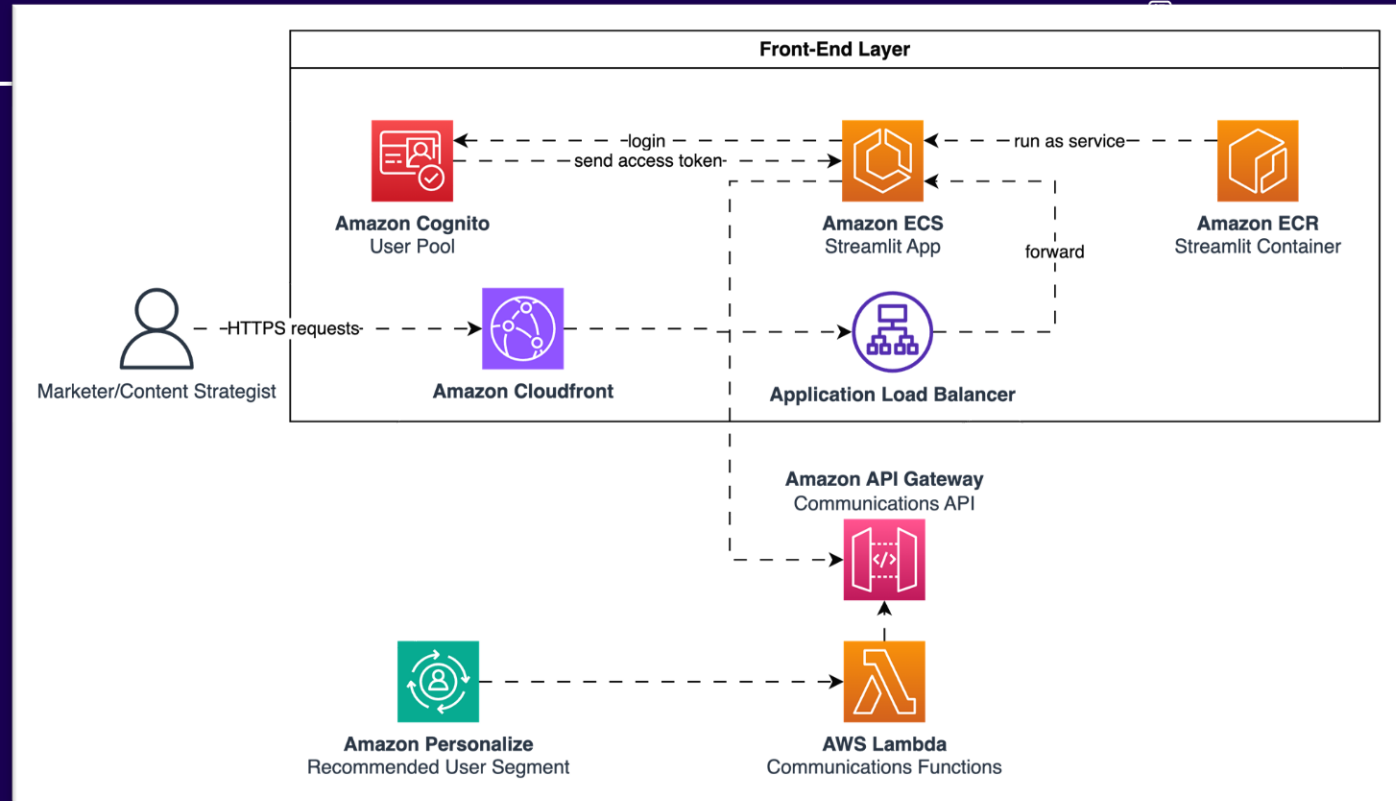
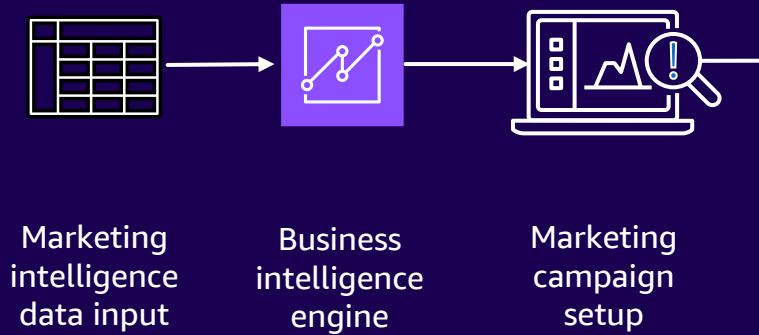
Let's build it out: Personalization

Insights

Personalization

Content generation

Distribution



- Runs microservice architecture with Amazon CloudFront, Application Load Balancer, Amazon ECS, Amazon API Gateway, and AWS Lambda
- Hosts marketer portal on Amazon ECS
- AWS Lambda calls Amazon Personalize to fetch user segment recommendations

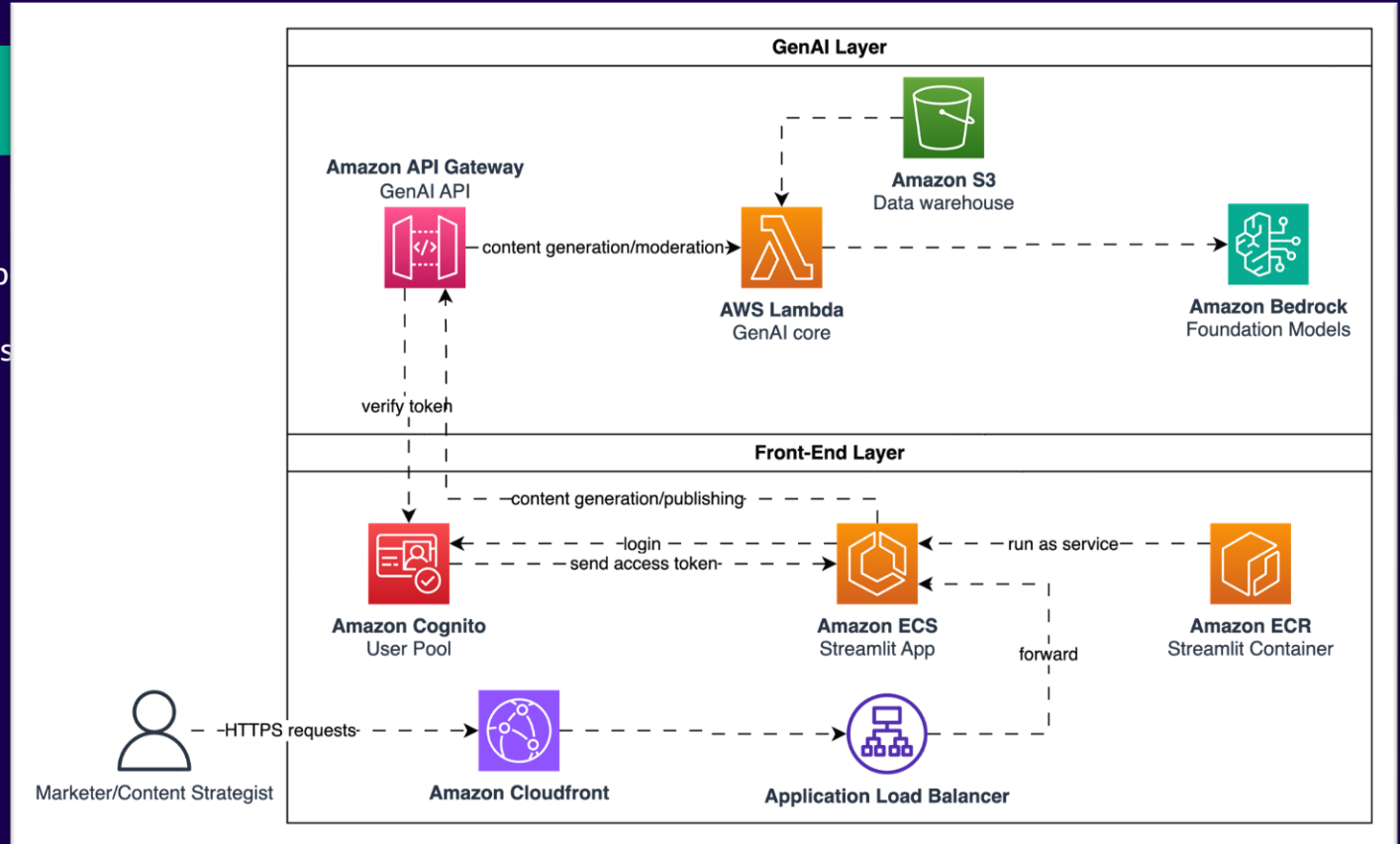
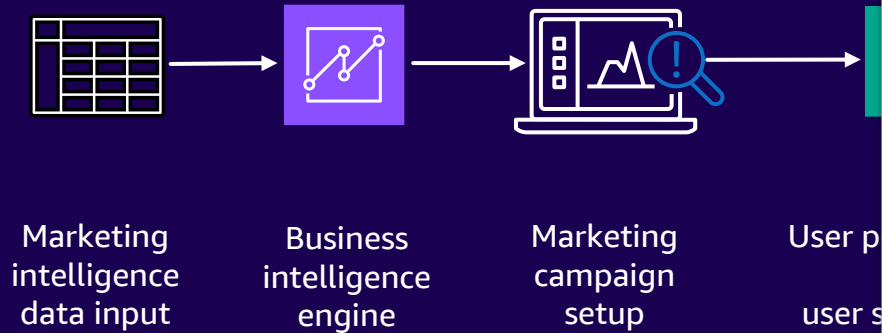
Let's build it out: Content generation

Insights

Personalization

Content generation

Distribution



- AWS Lambda fetches additional context (customer profile and product information from data warehouse)
- Microservice web app calls Amazon Bedrock via Amazon API Gateway for content generation and content moderation

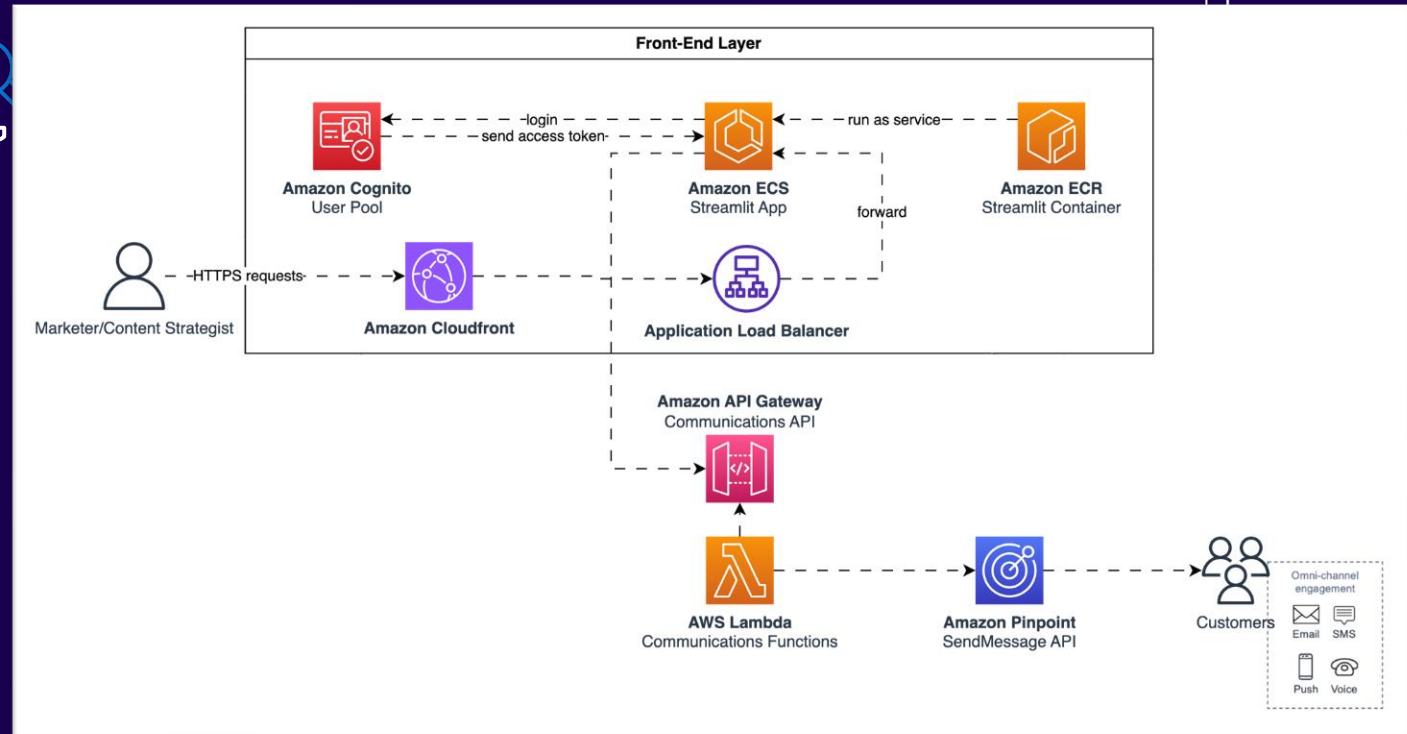
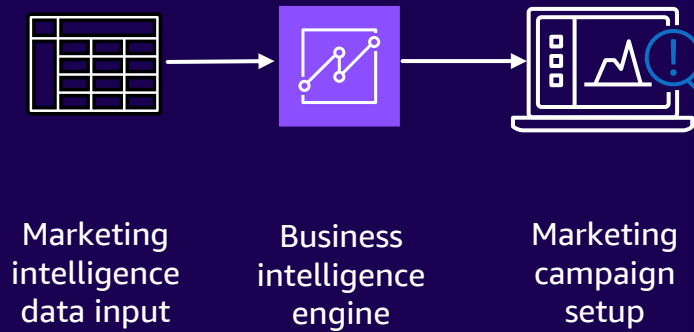
Let's build it out: Distribution

Insights

Personalization

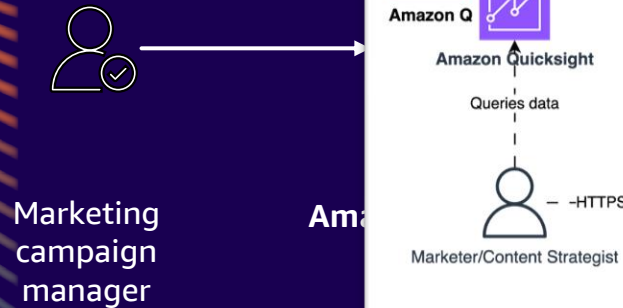
Content generation

Distribution

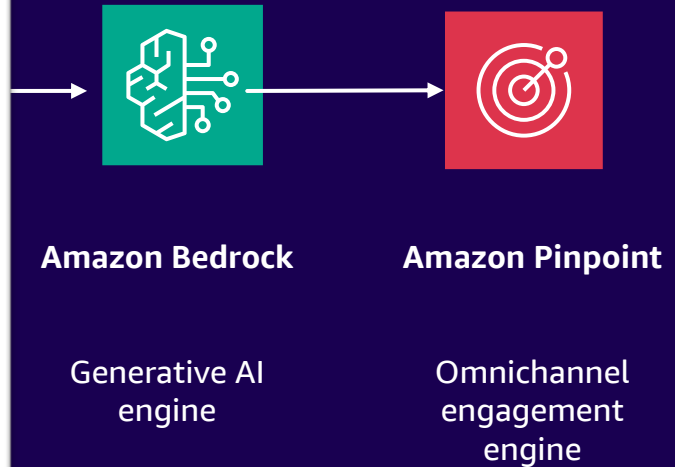
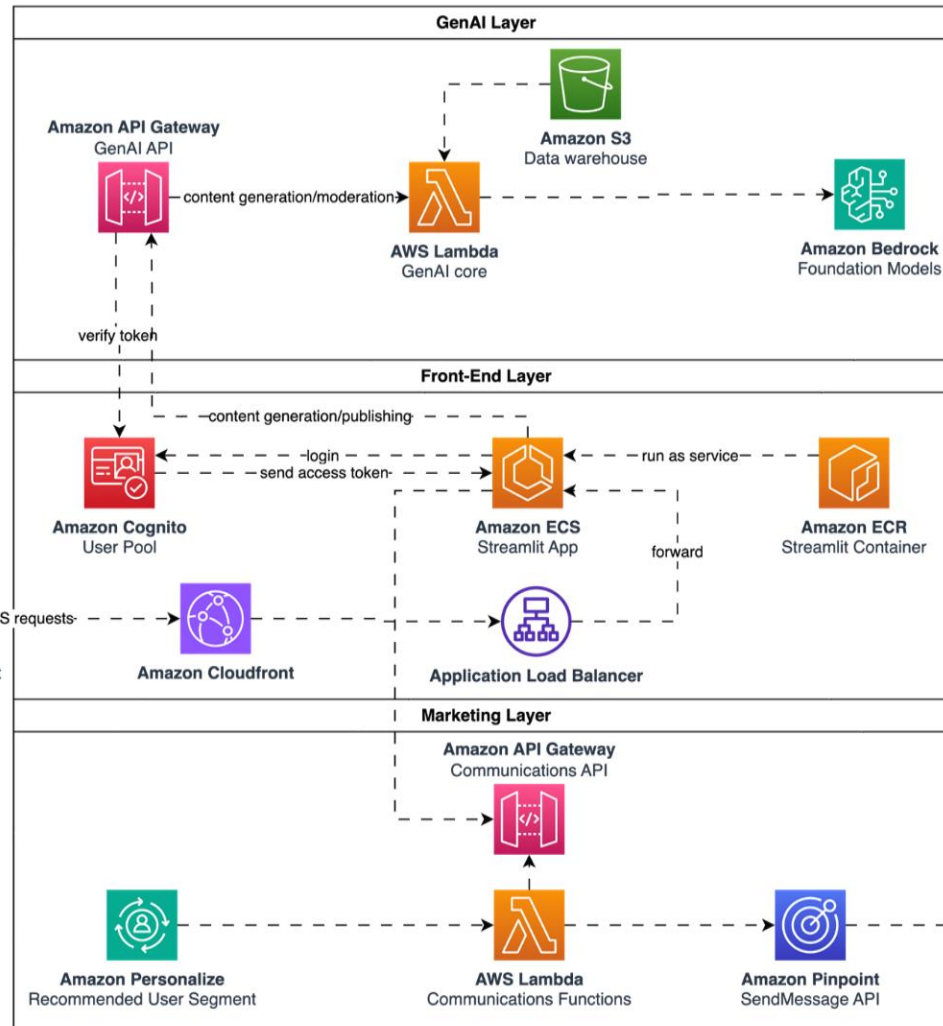


- Microservice web app call on Amazon Pinpoint via Amazon API Gateway to distribute marketing to end users
- Supports channels such as email, SMS, mobile push notifications, voice, and social media channels (e.g. WhatsApp)

All together: End-to-end solution pipeline on AWS



Amazon



Session takeaways

- **Target addressable market**

Amazon Q in QuickSight service provides data insights for marketing campaign promotion. Amazon Personalize creates recommended user segments using attributes for promoted items suggested by Amazon Q in Amazon QuickSight.

- **Personalized content monetization**

Utilize contextual metadata and domain knowledge, it personalizes content using Amazon Bedrock.

- **Enhanced corporate AI governance**

The content moderation engine ensures that the generative content complies with corporate governance, facilitated by Amazon Bedrock.

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Thank you!

