



# Big Data Solutions

Streamline Operations,  
Retain Customers,  
Drive revenue

Case Study: HKT Behavioural Targeting  
and Happiness Index

## Addressing Challenges

With intense competition across quadplay services, operators are increasingly under pressure to retain profitable customers and grow ARPU. Many leading service providers are turning to sophisticated big data analytics to help improve customer loyalty and target new services and offers more effectively. For operators to remain profitable and competitive, they must satisfy subscriber demand for new engaging services while at the same time maximising subscriber's overall happiness with the brand.

Operating in Hong Kong, one of the most developed and competitive telecom markets with 4 pay-TV operators, 5 fixed operators and 4 mobile operators serving a population of 7 million, HKT has successfully retained its leading position across its quadplay portfolio through constant innovation and a focus on customer satisfaction. HKT has embraced pioneering graph analytics technology to help improve targeted marketing offers and to measure and optimise on-going customer experience (Happiness Index)

## Business Outcomes

HKT's strategy across big data analytics is to apply advanced technology with a focus on business outcomes. With several campaigns launched in 2016, HKT was able to precisely target specific market segments, such as Golfers, Gamers, Technology lovers, wine lovers based on their behaviour and interaction across the Quadplay portfolio.

Using the latest big data analytics techniques, campaign hit response rates increased by three times compared to traditional methods. Big Data analytics enables a range of offers and services to be targeted based on an individual subscriber's behaviour, ensuring offers match customer preference and resulting in extremely effective cross-selling campaigns and improved ARPU.

In parallel, Big Data has supported HKT's on-going customer experience improvement program leading to churn reduction.

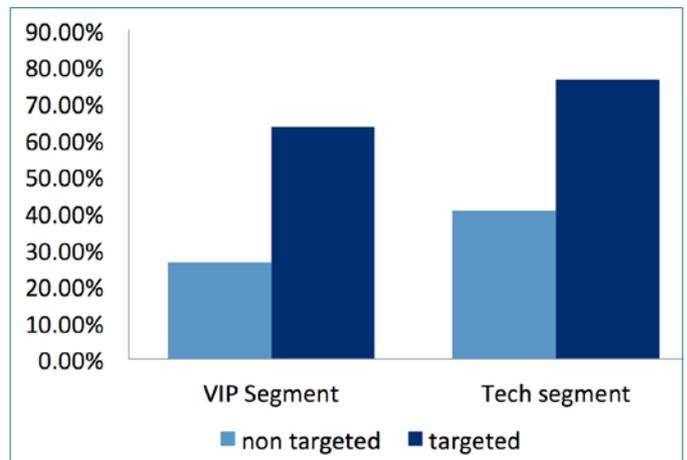


Figure 1: Offer hit rate comparison

# Big Data Journey

Extracting value from data available from within a telecom operator requires dynamic and detailed customer behavioural profiles that can be updated over time, by collecting data from as many service touch points as possible (for example: location, CDR, subscription information, internet browsing, IPTV), and applying stringent data protection and privacy. In that critical step, graph analytics bring to light customer's information through relationships and connections that would not be available in traditional databases.

**Targeting Solution:** Ensures that the most appropriate promotions and service packages are offered based on continually updated individual profiles from subscriber's ongoing interactions.

**Happiness Index:** Enables an accurate measure of customer happiness through the full range of different interactions between the subscriber and HKT (for example: customer care contacts, service top-up, network events...)

## Knowing more about your customers

HKT's big data solutions are supported by Lynx Analytics' proprietary software platform. HKT have developed a range of Business applications on top of this platform to assist telecommunications providers embrace customer-centricity.

Our technical solution includes the following functionality:

- Data Ingestion in batch mode
- Data Storage
- Data Transformation
- Cluster Management
- Graph/Machine Learning Algorithms
- Dashboards and Business Applications



Lynx Analytics is a graph analytic pioneer with extensive experience building up a massively scalable graph analytics platform. At Lynx Analytics, we combine technology, data, and domain intelligence to solve business problems for our Clients.

### Automated Graph Analysis

Analyses customer experience data, call data, customer community data, location data records and customer service data across multiple touch points to understand all the ingredients that would trigger customer interests and service happiness.

### Extensive Model Library

The solution leverages a library of models for the Telecommunications Industry to provide customer and targeting intelligence. The library can be supplemented with out-of-the box targeting models like churn scores and next-best-offer models. We can also create custom data models to ensure a better fit to your market specific data related issues.

### Dashboards and Business Applications

Our Dashboards highlight the customer journey across various segments. The Business Applications enable planning, targeting specific segments or interest groups and help with course corrections for various customer journey sets so that customer happiness is maximised.

### Easy Integration

The solution provides seamless plug-ins into customer management systems. We can augment existing processes or provide end-to-end integration.

Our Big Data Solution Suite:

Customer Intelligence	Targeting Solution	Happiness Index
Customer Intelligence for really knowing your customer	Targeting Intelligence for data-driven ROI	Embracing a truly customer-centric approach

## Big Data Solutions – Partnering for your success

PCCW Global, the international company of HKT with its technology partner Lynx Analytics, helps delivering big data solutions to your market. Our deep understanding of service provider needs coupled with our extensive experience and knowledge in applying big data solutions in the telco environment can help you deliver world class solutions. Services include technical advice, strategic planning and business consultancy to help operators to grow their business lines and extend their services into new, profitable revenue streams. Combining PCCW Global's knowledge of service provider needs and Lynx Analytics' expertise in graph analytics and algorithms; guarantee the delivery of world-class solutions anywhere in the world.