OUR TELECOM PRACTICE
Methods and Credentials

June 2017

EIU CANBACK
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Introduction to EIU Canback

EIU Canback methods

Mini-cases
EIU Canback is an elite management consulting firm anchored in science, predictive analytics, and consumer market knowledge.

We serve clients through five practices: Strategy, Growth, M&A Due Diligence, Corporate Finance, and Organizational Performance.

We operate globally with the world’s largest companies as clients. This has taken us to 82 countries since our founding in 2004.

We also offer analytic services with the Canback Global Income Distribution Database (C-GIDD) as our cardinal product.

EIU Canback has been a subsidiary of The Economist Group since 2015.
Canback is the fastest growing North American management consulting firm over the last decade. The growth is linked to our geographic expansion.

**CANBACK REVENUE GROWTH**

27% annual growth '04-'15

**GLOBAL MANAGEMENT CONSULTING ANNUAL GROWTH**

- Canback: 27.0%
- Management consulting sector: 5.8%
- World GDP: 5.8%
Canback is the leader in management consulting based on predictive analytics, which brings better results to client organizations.

MANAGEMENT CONSULTING INDUSTRY S-CURVE

- Datasets at the center of problem-solving
- Repeatability and scalability for efficiency

Predictive analytics management consulting

A new approach with higher performance

- Conceptually based problem-solving
- Experience preferred over hard analysis

Traditional management consulting

Few, if any, breakthroughs since the early 1990s

“The future is already here, it is just unevenly distributed”
Canback has worked on the ground in 82, helping clients draw reliable, fact-based conclusions through data-driven analyses.

GLOBAL FOOTPRINT

- United States: 7%
- Mid America: 11%
- South America: 30%
- Africa: 24%
- Europe: 7%
- Asia: 8%
- Global projects: 14%

Legend:
- Core office
- Satellite office
- Country projects
- Consultants’ work travel
Canback’s focus is management consulting, but we also offer related services. Each service line has predictive analytics based on the scientific method at its core.

- **Management consulting**: 75%
- **Strategy development**: 40%
- **M&A due diligence**: 35%
- **Predictive modeling**: 10%
- **Research**: 5%
- **Data**: 10%

*We pioneered, and are still the world’s only provider of GDP and income data at the subdivision and city level: C-GIDD*
We deliver management consulting and related services that span needs of large corporations

**CANBACK SERVICE LINES**

**Data**
- Canback Global Income Distribution Database (C-GIDD)
- **MARKET EXPLORER℠**

**Research**
- Country reports
- Industry reports
- Market reports
- General market opportunity assessments
- Survey-based research

**Predictive Modeling**
- Predictive modeling
  - Forecasting
  - Cross-sectional predictions
- Elasticity analyses
- Consumer segmentation

**Management Consulting**
- Market entry strategy
- Portfolio strategy
- Global or local market prioritization
- Pricing strategy
- **SOURCES OF GROWTH℠**
- Acquisition candidates screening
- M&A due diligence
- Distribution optimization
- Board / leadership interface design
- Diseconomies of scale minimization

**Transactional**

**Relational**

<table>
<thead>
<tr>
<th>Transactional</th>
<th>Relational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data 10%</td>
<td>Management Consulting 75%</td>
</tr>
<tr>
<td>Research 5%</td>
<td>Predictive Modeling 10%</td>
</tr>
<tr>
<td>Predictive Modeling 10%</td>
<td>Data 10%</td>
</tr>
<tr>
<td>Management Consulting 75%</td>
<td>Research 5%</td>
</tr>
</tbody>
</table>
Canback works extensively on ICT projects. We also have projects in other consumer-facing sectors where we have distinct competitive advantages based on methods and experience.

<table>
<thead>
<tr>
<th>INFORMATION &amp; COMMUNICATIONS TECHNOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing future demand in many global markets, such as predicting new subscriber growth in Central America and analyzing profitability prospects for a third market entrant in China</td>
</tr>
<tr>
<td>Designing strategies to win in the mobile space in a complex and changing environment, including studying mobile phone use for media and determining areas of growth in Asia</td>
</tr>
<tr>
<td>Building plans for growing infrastructure, including planning based on broadband placement in Africa and finding pockets for new subscribers in Latin America</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONSUMER GOODS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capturing exciting but hard to understand opportunities for durable and non-durable goods, such as assessing new category potential in Asia or developing a market entry strategy in Africa</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicting trends in retailing to inform strategic decisions, for example choosing store formats in Latin America and forecasting the evolution of modern trade in the Philippines</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FINANCIAL SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optimizing credit card, retail banking and consumer finance operations, including creating a pricing strategy for credit cards in Europe and defining optimal mix of ATM and retail branches for bank in sub-Saharan Africa</td>
</tr>
</tbody>
</table>
Canback is often cited in the press, research reports, annual reports, and investor presentations by some of the largest companies and organizations in the world.
Agenda

Introduction to EIU Canback

**EIU Canback methods**

Mini-cases
Canback has several proprietary models and frameworks that we use for corporate strategy within the telecommunications industry.

### CANBACK PROPRIETARY METHODS AND DATABASES

#### Models and Frameworks

- **INTEGRATED MOBILE STRATEGY**
  - **ARPU MODEL**
    - The ARPU Model projects total revenue and ARPU shifts in a changing market, taking into account factors such as new technology, additional competitors and income growth.
  - **MNP MODEL**
    - The MNP Model simplifies the impact of MNP introduction into several key factors that are predictive of churn and price impact.
- **CELLULAR OPERATOR ANALYSIS TOOL (COAT)**
  - The COAT database gives Canback the capability to predict profitability of cellular operators throughout the globe.
- **MOBILE PHONE PENETRATION MODEL**
  - The Mobile Phone Penetration Model provides sub-national projections on the number of mobile phone subscribers.

#### Databases

- **CANBACK GLOBAL INCOME DISTRIBUTION DATABASE (C-GIDD)**
  - C-GIDD is the only commercial database that combines economic, demographic, social, psychographic, and other internal data across the globe.
The integrated mobile strategy is built with inputs from several modules. Each of these modules allows for different strategies to be tested and helps build a concrete framework for understanding the client’s role in the mobile phone industry.
The ARPU framework integrates the changing landscape of the mix between voice, messaging, and data and can be used to evaluate the potential impact of pricing or innovative offerings.

**INTEGRATED MOBILE STRATEGY**
- ARPU MODEL
- MNP MODEL
- MOBILE PENETRATION MODEL

**CELLULAR OPERATOR ANALYSIS TOOL (COAT)**

**CANBACK GLOBAL INCOME DISTRIBUTION DATABASE (C-GIDD)**

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**AVERAGE REVENUE PER USER MODEL**

*Importance to ARPU*

- Voice
- Messaging
- Data

*4G implementation*

*Mobile market development*

**DATA ARPU FRAMEWORK**

**Key Considerations**
- Tiered data plans
- Handset bundling
- Speed
- Mobile payments
- Mobile advertising
- Operator mobile apps

- 'Classic' data offerings
- Innovative offerings

**DATA ARPU**

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**4G PRICING STRATEGY**

- **Introduction phase**
  - Elevated price (50-100% premium on 3G)

- **Target change when: 4G customers 10% of 3G / 4G subs**
  - Elevated price (25-50% premium on 3G)

- **Expand customer base phase**

- **Target change when: 4G covers 75% of 3G market**
  - 4G pricing matches 3G pricing

**Gain market share phase**
Understanding how mobile number portability is setup shows the likely price and churn rate changes. Canback’s MNP Model weights setup factors based on our experience and academic knowledge.

ADOPTED RESEARCH
MOBILE NUMBER PORTABILITY MODEL FRAMEWORK

- Speed of switching number: VERY HIGH
- Cost of switching number: HIGH
- Mobile number portability in effect: HIGH
- Customer awareness: MEDIUM
- Handset subsidies and term agreements: LOW

While the introduction of MNP will increase churn, the setup of how it is implemented is more important for understanding the impact on customers.

- Studies have shown MNP can reduce average prices by about 8.7% on average and up to 12%
- Speed of switching is the most important variable for determining pricing impact
- Introduction of MNP often provides an opportunity for medium-sized players to reduce price and gain share
Canback’s mobile phone penetration model takes into account more than five variables that drive mobile phone penetration and usage patterns.

**Canback Mobile Phone Penetration Model**

Output includes:
- Penetration
- Phone feature usage (voice, message, data)

**Population Characteristics**
- Rural population
- Population density
- Population growth
- Income
- Income growth

**Telecom Indicators**
- Fixed line subscriptions
- Mobile line subscriptions
- Mobile phone / subscription costs for each service

The mobile phone penetration model is used for both estimating the penetration in areas without data and predicting future penetration growth. Depending on data availability, not all indicators listed above are used.

**Mobile Phone Penetration S-Curve**

Mobile phones per 100 people, all countries

* $PPP refers to constant 2005 purchasing power parity dollars, which accounts for differences between the cost of purchasing goods and services between countries.

**Example Project Uses**

- Measuring the rate at which rural consumers begin to use mobile phones
- Finding the takeoff points of new services
- Understanding the maximum size of a mobile phone market
- Discovering the key regions within a country to target
The COAT database allows Canback to predict future winners and losers among cellular operators around the world and to understand what drives profitability and growth.

### Overview of COAT (Cellular Operator Analysis Tool) Database

#### Background
- Originally developed in 1999 to model cellular profitability and 3rd entrant probability of success in emerging European markets.
- Builds on country and operator data collected from annual reports, analysts, regulators, and proprietary sources.
- Uses pooled time series cross-sectional analysis for the years 1999-2014.

#### Countries*
- Australia
- Canada
- China
- Czech Republic
- Egypt
- Greece
- Hong Kong
- Hungary
- India
- Ireland
- Italy
- Japan
- Lithuania
- Malaysia
- Mexico
- Netherlands
- Pakistan
- Philippines
- Portugal
- Russia
- South Africa
- S. Korea
- Spain
- Sweden

#### Operators*
- Airtel (India)
- Bell Canada (Canada)
- Bité (Lithuania)
- Celcom (Malaysia)
- China Mobile (China)
- China Mobile (Hong Kong)
- China Unicom (China)
- COSMOTE (Greece)
- Globe Telecom (Philippines)
- Hutchison (Hong Kong)
- KPN (Netherlands)
- KTF (S Korea)
- Maxis (Malaysia)
- Magyar Telekom (Hungary)
- Mobile TeleSystems (Russia)
- Mobilink (Pakistan)
- Mobinil (Egypt)
- MTN (S Africa)
- NTT DoCoMo (Japan)
- O2 (Ireland)
- Omnitel Vodafone (Italy)
- Optus (Australia)
- Oskar Mobil (Czech Republic)
- PLDT (Philippines)
- Portugal Telecom (Portugal)
- Reliance Infocomm (India)
- Rogers (Canada)
- SK Telecom (S. Korea)
- SmarTone (Hong Kong)
- SoftBank Mobile (Japan)
- Tele2 (Lithuania)
- Telefonica (Spain)
- Telenor (Hungary)
- TeliaSonera AB (Sweden)
- Telstra (Australia)
- T-Mobile (Czech Republic)
- Ufone (Pakistan)
- Vodacom (S Africa)
- Vodafone (Greece)
- Vodafone (Ireland)
- Vodafone (Netherlands)
- Vodafone Egypt (Egypt)
- Vodafone Portugal (Portugal)
- Vodafone Spain (Spain)
- WIND (Greece)

#### Countries and Operators used for a particular effort. There are 12 additional countries and 28 operators in the total database.
The COAT database is analyzed using a sophisticated structural equation model (SEM).
This technical approach is converted into a set of simplified relationships to understand and explain the drivers of profitability (or growth—not shown here)

### PATH FOR CELLULAR OPERATOR PROFITABILITY

<table>
<thead>
<tr>
<th>PROFITABILITY</th>
<th>MIN. IN SAMPLE</th>
<th>MAX. IN SAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT/Revenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARPU relative to GDP/capita</td>
<td>0.5</td>
<td>32</td>
</tr>
<tr>
<td>Market age</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>Market ARPU</td>
<td>6</td>
<td>80</td>
</tr>
<tr>
<td>Number of operators</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Operator market share</td>
<td>5%</td>
<td>90%</td>
</tr>
<tr>
<td>Entry position</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>450</td>
<td>48,000</td>
</tr>
<tr>
<td>GDP growth</td>
<td>-1%</td>
<td>+10%</td>
</tr>
<tr>
<td>Market penetration</td>
<td>11%</td>
<td>94%</td>
</tr>
</tbody>
</table>

Note: EBIT/Revenue is the only profitability metric easy to collect for most operators.
The analysis quantifies the importance of each profitability and/or growth driver.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unstandardized coefficients</th>
<th>T-stat</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Standard error</td>
<td>High</td>
</tr>
<tr>
<td>Constant</td>
<td>0.60</td>
<td>0.21</td>
<td></td>
</tr>
<tr>
<td>ARPU relative to GDP/capita</td>
<td>0.12</td>
<td>0.01</td>
<td>2.36</td>
</tr>
<tr>
<td>Market age</td>
<td>0.22</td>
<td>0.02</td>
<td>2.28</td>
</tr>
<tr>
<td>Market ARPU</td>
<td>-0.10</td>
<td>0.01</td>
<td>-2.21</td>
</tr>
<tr>
<td>Number of operators</td>
<td>-0.23</td>
<td>0.04</td>
<td>-1.67</td>
</tr>
<tr>
<td>Operator market share</td>
<td>-0.36</td>
<td>0.53</td>
<td>-1.30</td>
</tr>
<tr>
<td>Entry position</td>
<td>-0.19</td>
<td>0.08</td>
<td>-1.20</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>0.02</td>
<td>0.00</td>
<td>0.57</td>
</tr>
<tr>
<td>GDP growth</td>
<td>0.43</td>
<td>1.42</td>
<td>0.51</td>
</tr>
<tr>
<td>Market penetration</td>
<td>-0.03</td>
<td>0.23</td>
<td>-0.07</td>
</tr>
</tbody>
</table>

MODEL SUMMARY

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R^2</th>
<th>Standard error</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.78</td>
<td>0.61</td>
<td>0.12</td>
<td>2.0</td>
</tr>
</tbody>
</table>
The result is a detailed understanding of what drives growth and/or profitability, and how operators can succeed in a given environment.

Based on a statistical (SEM) analysis of 46 operators in 24 countries between 2008 and 2013 (pooled time series cross-sectional analysis).

### PATH* FOR CELLULAR OPERATOR PROFITABILITY

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Relevant</th>
<th>COEFFICIENT</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARPU relative to GDP/capita</td>
<td>0.60</td>
<td></td>
<td>In a given market, a high ARPU strategy leads to higher profitability</td>
</tr>
<tr>
<td>Market age</td>
<td>0.40</td>
<td></td>
<td>The longer the cellular market has existed, the higher the profitability. (This is true in most markets and industries.)</td>
</tr>
<tr>
<td>Market ARPU</td>
<td>-0.40</td>
<td></td>
<td>Operators with high prices are less profitable.</td>
</tr>
<tr>
<td>Number of operators</td>
<td>-0.29</td>
<td></td>
<td>Profitability declines with the number of operators</td>
</tr>
<tr>
<td>Operator market share</td>
<td>-0.12</td>
<td></td>
<td>Operator market share has a slight negative impact on profitability</td>
</tr>
<tr>
<td>Entry position</td>
<td>-0.17</td>
<td></td>
<td>Third entrants are perhaps slightly disadvantaged, but the statistical significance is low, and disappears if 1st, 2nd, 3rd entrant groups are tested separately</td>
</tr>
<tr>
<td>GDP/capita</td>
<td>n/m</td>
<td></td>
<td>Rich (OECD) markets are neither more or less profitable than emerging markets</td>
</tr>
<tr>
<td>GDP growth</td>
<td>n/m</td>
<td></td>
<td>General GDP growth does not influence profitability</td>
</tr>
<tr>
<td>Market penetration</td>
<td>n/m</td>
<td></td>
<td>The level of market penetration does not affect profitability</td>
</tr>
</tbody>
</table>

### PROFITABILITY

EBIT/Revenue

61% of profitability explained ($R^2$)

### Dependent variable

- **EBIT/Revenue**

### INTEGRATED MOBILE STRATEGY

- **ARPU MODEL**
- **MNP MODEL**
- **MOBILE PENETRATION MODEL**

### CELLULAR OPERATOR ANALYSIS TOOL (COAT)

### CANBACK GLOBAL INCOME DISTRIBUTION DATABASE (C-GIDD)

* Based on a statistical (SEM) analysis of 46 operators in 24 countries between 2008 and 2013 (pooled time series cross-sectional analysis).
The Canback Global Income Distribution Database (C-GIDD) is used to quantify market size and demand drivers. C-GIDD is the only commercial database of its kind in the world.

### C-GIDD COVERAGE
- **The world’s only database with complete subnational data series**
- GDP, household income, size of income brackets, size of socioeconomic classes, population
- 213 countries, 697 subdivisions and 997 cities
- Subnational: 2002-2027
  National: 1970-2037

### C-GIDD MODULES
- C-GIDD income distribution data
  *Available as a commercial service at cgidd.com*
- C-GIDD economic, demographic, social and psychographic data
  *Internal to Canback*
- C-GIDD benchmark products and services data
  *Internal to Canback*

### EXAMPLES OF C-GIDD USES
- Quantify number of households at specific income or socioeconomic levels
- Compare consumer market sizes across geographies in a uniform way
- Merge with category or sales data to spot new or under-developed opportunities

### EXPLANATORY POWER OF C-GIDD
Demand variance explained by income above category-specific thresholds

- Television sets
- Oil consumption
- Cellphone subscribers
- Internet users
- Personal computers
- McDonald's restaurants
- Milk consumption
- Cash machines (ATMs)
- Insurance premiums
- Bank deposits
- Electricity consumption
- Airline passengers

![Graph showing R² values for various categories]
Agenda

Introduction to EIU Canback
EIU Canback methods
Telecom mini-cases
Canback has worked extensively in the telecommunications industry and on projects aimed at improving key financials.

**CASE STUDIES**

A. Profit improvement initiative
B. Large mobile phone player growth strategy
C. Mobile phone entry strategy
D. Telecom new market entry identification and strategy
E. Cell tower network infrastructure development
F. China 3rd player - COAT
G. Internet pay TV entry strategy
H. Anti-piracy TV strategy
I. Smartphone s-curves
Case study A: Canback developed and executed a full pricing overhaul plan for a client, representing a total margin improvement of roughly $90M

**CLIENT AND OPPORTUNITY**

- In a previous project with an African retail client, it was observed that their existing pricing scheme had introduced challenges to continued profitability
- Canback collaborated to develop new pricing methods for additional profit generation

**APPROACH AND RECOMMENDATIONS**

- Canback used a pooled regression model to determine price elasticities for over 25 country sub-regions
- Analysis was done on possible shifts to base pricing, including removing surcharges and staggering price increases
- Benefits of strategic regional promotions were quantified
- This approach allowed Canback to recommend several key changes:
  - Shift to base pricing by removing surcharges and creating uniform national prices for all SKUs
  - Improve use of discounts by choosing brands with higher margin and higher elasticity
  - Ensure pricing compliance through enhanced loyalty program incentives

**PROJECTED RESULTS**

- Overall EBITDA improvement was roughly $90M
- Canback’s recommendations provided consumers with a portfolio of goods to better satisfy demand while simplifying the organization’s pricing structure
- $36M in EBITDA improvement obtained from 1) the implementation of more targeted regional strategies and 2) repositioning certain brands to underserved price points
- Yielded an additional $45M in margin improvement, by matching prices in lower surcharge bands to higher ones
Case study B: Canback developed short and long-term business strategies aimed at improving performance within a struggling market and capturing long term market share

CLIENT AND OPPORTUNITY

- The client is telecommunications company based in northern Europe
- While the current mobile market is struggling and subscriber growth has slowed, the client needs a strategy on how survive in the down market and maintain position as a leading player

APPROACH AND RECOMMENDATIONS

- Canback modeled the future mobile subscribers and revenue outlooks using historical data and the Canback mobile phone penetration model
- An analysis of the client’s current business plan revealed unrealistic assumptions and views, leading to highly improbable growth and revenue projections
- As part of a business plan correction, Canback developed an extensive growth strategy that addressed both short and long term goals
  - With M&A being the only option for short term growth in the struggling market, Canback completed an analysis on competitors’ performance and potential synergies
  - Proper revisions were made to the client’s original business plan, including marketing and pricing changes, to promote long term organic growth

PROJECTED RESULTS

- Canback’s revised business plan increased the client’s projected growth in market share through organic methods alone by over 5%
- The client began taking steps towards potential M&A deals with major competitors that would establish them as the market leader for years to come
Case study C: A targeted market entry strategy gave the client rapid market share growth in line with the introduction of 3G

CLIENT AND OPPORTUNITY

- The client is a broadband provider based in Southeast Asia
- With 3G introduction on the horizon, the client is interested in using the transition as an opportunity to enter the mobile phone market

APPROACH AND RECOMMENDATIONS

- Canback utilized C-GIDD and the in-house mobile phone penetration model to project mobile data usage and revenue in the target country. The projections were further split into data used by traditionally dominant messaging services and emerging non-messaging services
- An analysis was run on the market’s response to 3G introduction using historical data and projected demand drivers to quantify the market’s ability to support additional players
- Regressions on other late market entries into Southeast Asia telecoms markets revealed success among late entrant players utilizing distinct marketing strategies
- Canback recommended timing the market entry with the transition to 3G and targeting high ARPU postpaid subscribers

PROJECTED RESULTS

- By targeting higher ARPU customers, the client generated significant revenue from the 5% market share it captured within 2 years
- After branching out to prepaid customers as well, the client was projected to achieve nearly 10% market share within 5 years of market entry
Case study D: A telecommunications company successfully entered a new market with Canback’s expertise identifying the best market and entry strategy

**CLIENT AND OPPORTUNITY**

- The client is a telecommunications company based in the Middle East
- Succeeding as a major player in its only country of operation, the client is looking to expand into neighboring less developed countries

**APPROACH AND RECOMMENDATIONS**

- Canback utilized its mobile phone penetration model along with sub-national income and population data to analyze which countries currently and are projected to underperform in mobile penetration
- Analyses were completed on underperforming markets, examining factors such as current players’ performance, spending and societal demand drivers and barriers to entry/ease of doing business
- Canback produced a market entry and development strategy for the most attractive neighboring markets, putting emphasis on synergies with the client’s current infrastructure and projected market share won

**PROJECTED RESULTS**

- The client took steps to entering the mobile network market in one of the countries ranked most attractive in the suggested strategy
- Due to lower implementation costs identified by Canback, the client was able to adopt an aggressive marketing strategy and was projected to achieve nearly 6% market share within 2 years of market entry
Case study E: Canback successfully advised on a telecommunications provider’s new cell tower infrastructure

**CLIENT AND OPPORTUNITY**

- The client is a telecommunications provider based in sub-Saharan Africa
- The client is looking to upgrade and expand its cell tower infrastructure and needs to know in which geographic regions it should focus improving coverage

**APPROACH AND RECOMMENDATIONS**

- Canback built a geographic attractiveness model using sub-national current and projected mobile phone penetrations, C-GiDD data on population prospects and projected ICT spend per capita and historical data from more developed peer countries in the region
- The model was overlaid with client provided data on their current infrastructure, coverage quality and customer satisfaction by region
- Canback provided a suggested ranking of target locations and geographic regions focusing on attractiveness and size of the future market, utilizing current infrastructure to minimize implementation costs and lowering churn rate through improved customer satisfaction in underperforming areas

**PROJECTED RESULTS**

- The client focused its cell tower expansion and upgrade efforts in 5 of the target cities/geographic regions recommended by Canback
- Total revenue was increased by over 6% within 1 year of implementation, with projections indicating over a 10% increase within 2 years
- Customer churn rate was projected to be cut by over 10% in the same timespan due to upgrades in previously low-satisfaction areas
Case Study F: Outputs of the COAT database predicted the success of new market entrants and new price strategies in China.

PROFITABILITY IN THE CHINESE CELLULAR OPERATOR MARKET

EBIT/Revenue

Average for comparison countries = 17%

China Mobile  China Unicom  Total China

PROFITABILITY SENSITIVITY ANALYSIS*

2013

* Based on a statistical (SEM) analysis of 46 operators in 24 countries between 2008 and 2013 (pooled time series cross-sectional analysis)

** Data for US includes Cingular, Nextel and Verizon

*** High-ARPU strategy defined as 25% above China Mobile’s 2013 ARPU
In reality, as China Telecom’s mobile services grew to warrant its inclusion as a third player, profitability of the industry declined by 6% as measured by EBITDA as a share of revenue.

The Canback team performed an audit of the COAT model to see how well the prediction for the Chinese telecom market tied with the actual market outcome, with the following results:

1. In line with predictions, overall profitability declined from 43% in 2010 to 37% in 2014 due to the entrance of a third player into the mobile market.

2. Profitability is lowest for the third entrant compared to the other players, an implicit prediction in the model.

The profitability numbers differ from the model’s due to the lack of easily available EBIT data. Instead, EBITDA was used to measure profitability.
Case study G: Canback designed and recommended an IPTV entry strategy that increased the client’s pay TV market share by over 20% in four years

CLIENT AND OPPORTUNITY

• The client is a media and entertainment company based in Southeast Asia looking to expand its subscriber base

• Already a significant player in satellite TV, the client is looking to grow its share in the developing pay TV, particularly in IPTV, in SE Asia

APPROACH AND RECOMMENDATIONS

• Canback needed to model the development of the entire TV market across major free and pay platforms.

• The future total TV and pay TV markets were modeled using historical data from the target countries and their peers as well as statistically significant data on income and media demand drivers (through C-GiDD and other sources)

• Using the model outputs, the target countries’ current technological and digitization capabilities and more developed peer countries’ media trends, Canback modeled the IPTV growth and opportunity in each of the target countries

• Canback ranked each of the target country market’s attractiveness, accounting for IPTV growth, ease of doing business and synergies with the client’s current infrastructure and operations

PROJECTED RESULTS

• The client began looking into partnering with an internet provider to enter the IPTV market in Canback’s highest ranked target country

• In line with Canback’s projections, IPTV’s share of the pay TV market had grown by nearly 13% within 2 years and 25% within 4 years in the target country
Case study H: Canback identified key causes of TV piracy and developed a strategy to capture customers who had previously avoided paying for programming

CLIENT AND OPPORTUNITY

• The client is a telecommunications and media provider based in Southeast Asia

• In the country of operation, TV signal piracy is a widespread problem; the client needs to quantify revenues lost to piracy and implement strategies to reduce those losses

APPROACH AND RECOMMENDATIONS

• Canback built a model to summarize where signals are being pirated and calculate the total revenue lost across the industry

  • In 2011, the losses due to piracy nearly matched the value of legitimate subscription revenue

• Analysis on historical data from the target country and its peers further along the digitization process revealed key pricing, service and packaging deals that successfully combat piracy

• Until a full switch to digital signals could be made, Canback recommended a short term strategy based on utilizing proven signal encryption, targeting lower income customer segments and emphasizing high quality customer service

PROJECTED RESULTS

• More affordable pricing allowed the client to capture lower income customers that would usually engage in piracy, growing its market share in cable/satellite by nearly 25% in 4 years

• Superior customer service improved customer retention and represented a desirable product unattainable through piracy

• In the same 4 years, the projected losses due to piracy were cut by nearly 20%
Case study I: Smartphone demand take off begins when countries reach about ~8,000 dollars per capita, but other drivers are also needed to explain the increase as income rises.

Canback often uses s-curves to show key takeoff points. We have found that, while the smartphone industry has a takeoff point, the wide variation not explained by income shows companies need to consider other factors when modeling demand for these products.

**SMARTPHONE DEMAND**

**2014**

**SMARTPHONE PENETRATION**

**2024 projection**

<table>
<thead>
<tr>
<th>Country</th>
<th>2014</th>
<th>2024</th>
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<tbody>
<tr>
<td>Singapore</td>
<td>72%</td>
<td>79%</td>
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<tr>
<td>United States</td>
<td>56%</td>
<td>60%</td>
</tr>
<tr>
<td>China</td>
<td>47%</td>
<td>59%</td>
</tr>
<tr>
<td>South Africa</td>
<td>40%</td>
<td>44%</td>
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<tr>
<td>Mexico</td>
<td>37%</td>
<td>42%</td>
</tr>
<tr>
<td>Brazil</td>
<td>26%</td>
<td>28%</td>
</tr>
<tr>
<td>Japan</td>
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<td>26%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>20%</td>
<td>23%</td>
</tr>
<tr>
<td>India</td>
<td>13%</td>
<td>16%</td>
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</tbody>
</table>

As income rises, other drivers better explain demand.
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