BIBLIOGRAPHY

BOOKS


**JOURNALS**


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- **Isaac M. Kariuki** (2011) in his MPhil., dissertation ‘Challenges and Survival Strategies of Supermarkets in Nairobi, Kenya’


WEB SITES

1. http://www.google.co.in/
3. http://www.csb.co.in/
5. http://www.federalbank.co.in/
## I. PERSONAL INFORMATION:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Gender</th>
<th>Age</th>
<th>Education</th>
<th>Occupation</th>
<th>Income</th>
<th>Preferred Bank</th>
<th>Account Holding Type</th>
<th>Purpose of Using Electronic Banking</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Respondents</td>
<td>Male (Tick)</td>
<td>Up to 25</td>
<td>Up to High School</td>
<td>Agriculture</td>
<td>Below Rs. 20,000</td>
<td>Public Sector Bank</td>
<td>Savings Account</td>
<td>Withdrawal of Funds</td>
</tr>
<tr>
<td>1.1 Gender</td>
<td>1.2 Age</td>
<td>1.3 Education</td>
<td>1.4 Occupation</td>
<td>1.5 Income</td>
<td>1.6 Preferred Bank</td>
<td>1.7 Account Holding Type</td>
<td>1.8 Purpose of Using Electronic Banking</td>
<td></td>
</tr>
</tbody>
</table>
2. THE CUSTOMER’S AWARENESS AND SATISFACTION OF E-BANKING SERVICES

2.1 Preference Regarding Bank Account
   a. State Bank of India [ ]
   b. Canara bank [ ]
   c. Indian bank [ ]
   d. Axis Bank [ ]
   e. ICICI Bank [ ]
   f. HDFC Bank [ ]
   g. Indian Oversea Bank [ ]
   h. Union Bank Of India [ ]
   i. IDBI [ ]
   j. Central Bank of India [ ]

2.2 Preference Regarding Account Type:
   a. Current [ ]
   b. Saving [ ]
   c. Loan [ ]
   d. Others [ ]

2.3 Type of Internet Services Provided by the Bank
   a. Check balance on line [ ]
   b. SMS provide by Banks about salary etc. [ ]
   c. Transfer of money [ ]
   d. Credit Cards/ATM Services[ ]
   e. Calculate loan payment [ ]
   f. Online bill payment [ ]
   e. Download loan application[ ]
   f. Demat Trading etc [ ]
2.4 Reasons for Availing Internet Banking

a. Convenient [ ]
b. Safe and Secure [ ]
c. Low Service Charge [ ]
e. Online Shopping [ ]
f. Curiosity [ ]

2.5 Preference regarding Internet Banking Services:

a. Seeking product and rate information [ ]
b. Calculate loan payment information [ ]
c. Download loan applications [ ]
d. Download personal bank transaction activity [ ]
e. Check balance on-line [ ]
f. Apply for consumer loans or credit cards online [ ]
g. Inter-account transfers [ ]
h. On-line bill payments [ ]

2.6 Duration of Using Internet Banking:

a. Since last 6 months [ ]
b. Since last 1 year [ ]
c. Since last 2 Years [ ]
d. More than 2 Years [ ]

2.7 Satisfaction from Internet Banking Services:

a. Convenience [ ]
b. Cheaper [ ]
c. Effective [ ]
d. Safe to use [ ]
2.8 Opinion of Respondent to Improve Acceptance of Internet Banking:

a. Aware users/customers [   ]
b. Staff should be trained [   ]
c. Improve connectivity (Attach mobiles provide electricity etc [   ]
d. Educate them (school, college and customers) [   ]
e. Safe and secure [   ]
f. Reduce charges [   ]
g. TV(advertisement)/seminar/Newspaper/workshop etc. [   ]
h. Site open clearly [   ]

2.9 Distribution of sample respondents according to their income (Tick)

<table>
<thead>
<tr>
<th>SNo.</th>
<th>Customer preference</th>
<th>Satisfied</th>
<th>Percentage</th>
<th>Not Satisfied</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobile Banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>E-Cheques</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Phone Banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Credit/Debit cards</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ATM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Electronic fund transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Tele banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Internet Banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>SMS Banking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2.10 Customer preference of E-banking services:

a. Time saving

b. Accuracy

c. Ubiquity

d. Easy and convenient access

e. Cost saving

f. Transparency

g. Social status

h. Confidentiality

i. Exchange of information

j. Service quality

k. Security

l. Speed

m. Control over funds

n. Time out feature

2.11 Motivating factors to prefer E-banking services:

a. Time factor

b. Reliability

c. Queue management

d. On-line bill payments

e. Easy to use and user friendliness

f. Anytime and anywhere banking facility

g. Convenience way of operating banking transactions

2.12 Customer perception on service quality factors:

a. Reasonable cost

b. Expected neither technique intervention nor quality services

c. Security
2.13 Respondent’s response with future expectations with E-banking services:

a. Risky [  ]
b. Less Knowledge [  ]
c. High Fees [  ]
d. Complex to use [  ]

3. E-BANK SERVICES:

3.1 Type of bank account / deposit:
   a. Saving account [  ]
   b. Current account [  ]
   c. Recurring deposit account [  ]
   d. Fixed deposit account[  ]

3.2 Reasons for not using online banking:

   a. Lack of computer knowledge [  ]
   b. Do not trust on mechanical devices [  ]
   c. Fear to use [  ]

3.3 Problems faced by the customers while using the banking services through e-channels

<table>
<thead>
<tr>
<th>Factors</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>DA</th>
<th>SDA</th>
<th>WAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>E-channels are creating more confusion to the customers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>E-bank service charges are high (hidden cost).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>More formalities are required</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Smart card sometime creates technical hurdles to make payments.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Lack of ATM service, Crowd in peak hours and Restriction in withdrawal.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Lack of infrastructure and unsuitable location of ATMs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Unauthorized access within the network and loss or damage of data by hackers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Inability to manage information properly and to deliver products or services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Inadequate information to customers about product use and problem solution procedures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Inaccurate processing of transactions and transaction has not been uploaded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Data privacy and confidentiality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Significant problem with network connection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>E-channels are creating relationship among the bank customers and bank employees.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Lack of knowledge regarding use of E-channels.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. THE CUSTOMERS’ PERCEPTION AND ATTITUDES OF E-BANKING SYSTEM IN TAMIL NADU

4.1 How did you come to know about e-banking services?
   a) Own accord [   ]
   b) Advertisement in print media[   ]
   c) Online advertisement[   ]
   d) Through friends and relatives[   ]
   e) Through bank officials [   ]

4.2 How long have you been availing the e-banking services?
   a) Less than 1 Year[   ]
   b) 1-2 Years[   ]
   c) 2-3 Years[   ]
   d) 3-5 Years [   ]
   e) Above 5 Years[   ]

4.3 Rank the following e-channels most preferred by the customer.

<table>
<thead>
<tr>
<th>E-Banking Channels</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
<th>WS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit cards</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash deposit machine</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.4 Which of the following online services you prefer more?

<table>
<thead>
<tr>
<th>On line Services</th>
<th>Tick the appropriate column</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet banking</td>
<td></td>
</tr>
<tr>
<td>Telephone banking</td>
<td></td>
</tr>
<tr>
<td>Mobile banking</td>
<td></td>
</tr>
</tbody>
</table>

4.5 What do you feel about the hidden charges levied for e-banking services?

<table>
<thead>
<tr>
<th>Responses</th>
<th>High</th>
<th>Moderate</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hidden charges</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.6 Rank the following e-banking services provided by the bank considering their usage

<table>
<thead>
<tr>
<th>E-Banking services</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-ticketing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recharging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-shopping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online payment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-tax</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.7 Which specific electronic fund transfer have you been using?

<table>
<thead>
<tr>
<th>Type of fund transfer</th>
<th>No of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Electronic fund transfer</td>
<td></td>
</tr>
<tr>
<td>Real time gross settlement</td>
<td></td>
</tr>
<tr>
<td>Inter bank mobile payment service</td>
<td></td>
</tr>
<tr>
<td>Fund transfer</td>
<td></td>
</tr>
</tbody>
</table>

4.8 In your opinion what are the problems faced by the customers while operating the transactions?

<table>
<thead>
<tr>
<th>Problems</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>EDA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear about the security</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of thorough knowledge of technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unsuitable location of ATM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo messages from the hackers to customers asking one time password</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limited number of Cash deposit machines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.9 What are the motivational factors encouraging customers to prefer a particular e-channel (Rate accordingly)

<table>
<thead>
<tr>
<th>Motivational factors</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>EDA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-safe is an application enhances security</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy accessibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time and money saving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide innovative and efficient services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.10 Rate the following statements related to statements about e-channels

<table>
<thead>
<tr>
<th>Statements</th>
<th>SA</th>
<th>A</th>
<th>UD</th>
<th>EDA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-channels reduce the waiting time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-channels have become essential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low charges for fund transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-channels ensure privacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E-channel have bright future</td>
<td></td>
<td></td>
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</tbody>
</table>

5. Any suggestions for improvement

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## IMPORTANCE OF E-BANKING SERVICES IN BANKING SECTOR

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**Dr. M. MOHAMED MOHIDEEN**
Guide & Supervisor, PG & Research Department of Commerce, Khadi Mohideen College, Adirampattinam.

### Abstract

Financial Institution management should choose the level of e-banking services provider to various customer segments based on customer needs and the institution’s risk assessment considerations. Institutions should reach this decision through a board-approved, e-banking strategy that considers factors such as customer demand, competition, expertise, implementation expense, maintenance cost, and capital support. Some institutions may choose not to provide e-banking services. Financial institutions should periodically re-evaluate this decision to ensure it remains appropriate for the institutions overall business strategy. Institution may define success in many ways including growth in market share, expanding customer relationships, expense reduction, or new revenue generation.

### Keywords
Financial Institution, Management, Assessment Demand, Competition

### MONITORING & ACCOUNTABILITY

Once an institution implements its e-banking strategy, the board and management should periodically evaluate the strategy’s effectiveness. A key aspect of such an evaluation is the comparison of actual e-banking acceptance to the institution’s goals and expectations. Some items that the institution might use to monitor the success and cost effectiveness of its e-banking strategy include:

- Revenue generation
- Website availability percentages
- Customer service volume
- Number of customers actively using e-banking services
- Percentage of accounts signed up for e-banking services, and
- The number and cost per item of bill payments generation.

Relationship between income and Development in E-banking Process Without clearly defined and measurable goals, management will be unable to determine if e-banking service are meeting the customer's needs as well as the institution’s growth and profitability expectations. In evaluating the effectiveness of the institution’s e-banking strategy, the board should also consider whether appropriate policies and procedures are in effect and whether risks are properly controlled. Unless the initial strategy establishes clear accountability for the development of policies and controls. The board will be unable to determine where and why breakdowns in the risk control process occurred.

### AUTHENTICATING E-BANKING

E-banking introduces the customer as a direct user of the institution’s technology. Customers have to log on and use the institution’s systems. Accordingly, the financial institution must control their access and educate them in their security responsibilities. While authentication controls play a significant role in the internal security of an organization.

### AUTHENTICATING EXISTING CUSTOMERS

In addition to internal verification of customer identities, the financial institution must also authenticate its customer’s identities each time they attempt to access customer’s identities each time they attempt to access their confidential on-line information. The authentication method a financial institution chooses to use in a specific e-banking application should be appropriate and “commercially reasonable” in light of the risks in that application whether a method is in a commercially reasonable system depends on an evaluation of the circumstances. Financial institution should weigh the cost of the authentication method, including technology and procedures, against the level of protection it affords and the value or sensitivity of the transaction or data to both the institution and the customer. What constitutes a commercially reasonable system may change over time as technology and standards evolve. Authentication methods involve confirming one of three factors:

- Something only the user should know, such as password or pin
- Something the user possesses, such as an ATM card, smart card, or token; or

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International Journal of Commerce, Management and Computer Application
Something the user is such as a biometric characteristic like a fingerprints or iris pattern.

**Impact of existence of e-banking on retailers**

<table>
<thead>
<tr>
<th>Nature of Impact</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit facility allowed by the small retailer</td>
<td>Healthy Competition</td>
</tr>
<tr>
<td>Personalized service rendered by the small retailer</td>
<td>Cit in margins</td>
</tr>
<tr>
<td>Proximity of small shops to customer residence</td>
<td>Unhealthy competition</td>
</tr>
<tr>
<td>Common phobia to enter big shops many customer prefers smaller one</td>
<td>Cut in turnover</td>
</tr>
<tr>
<td>Unlimited timings of the small shop</td>
<td>No impact</td>
</tr>
<tr>
<td>No impact</td>
<td>Total</td>
</tr>
</tbody>
</table>

Authentication methods that depend on more than one factor are typically more difficult to compromise than single-factor system therefore suggesting a higher reliability of authentication. For example, the use of a customer ID and password is considered single-factor authentication since both items are something the user knows. A common example of two-factor authentication is found in most ATM transactions where the customer is required to provide something the user possesses (i.e., the card) and something the user knows (i.e., the pin) single-factor authentication alone may not be adequate for sensitive communications high dollar value transactions or privileged user access (i.e., network administrators). Multi-factor techniques may be necessary in those cases. Institution should recognize that a single may be “tied” (e.g., required multiple password) to enhance security without the implementation of a true two-factor system.

**TRANSACTION / OPERATION RISK**

Transaction / operation risk arises from fraud, processing errors, system disruption, or other unanticipated events resulting in the institution inability to deliver products or services. This risk exists in each product and service offered. The level of transaction risk is affected by the structure of the institution’s processing environment, including the types of services offered and the complexity of the processes and supporting technology. The most instances, e-banking activities will increase the complexity of the institution’s activities and the quantity of its transaction / operations risk, especially if the institution is offering innovation services that have not been standardized. Since customers expect e-banking services to be available 24 hours a day, 7 days a week, financial institutions should ensure their e-banking infrastructures contain sufficient capacity and redundancy to ensure reliable service availability. Even institutions that do not consider e-banking a critical financial service due to the availability of alternate processing channels, should carefully consider customer expectations and the potential impact of service disruptions on customer satisfaction and loyalty.

**ADVANTAGES OF E-BANKING SYSTEM**

E-Banking system of credit banks has been constructed in order to greatly speed up and simplify business activities. Advantages of E-Banking related to classic one are:

- Lowering to transactions
- Faster turn – over
- Safe executions of payment operations
- Saving time
- Possibility of executing transactions from the working space
- Constant overview on the account balance and list of transaction.

E-banking system of credit banks gives to its users using of following project solutions:

- Working through FX application (off-line application).
- Working through WEB application (on-line application).
- Getting statements through e-mail.
- Overview of the account balance through SMS messages.

Using of the above mentioned services allows using others. Pass for the payment operations of credit banks, for the payment orders sent through e-banking, are 15% lower. The bank is obliged to provide users with user’s package which includes installation CD, smart card, reader for smart card and users’ manual.
CONCLUSION

This conclude that with the economy opening up the banking industry of late is undergoing several changes. Big players and MNCs have started to enter the banking the new dimension is being given to the e-banking business. The store size has started to bulge investments began to skyrocket, ambush and skilled salesman are being pressed into and competition has become cutthroat the several of the banker, irrespective of size, big or small has become difficult supermarket are yet to get the great Indian middle class and rural Indian in their fold. That may take a very long time to happen because it is extremely difficult to break cultural and demographic barriers. Until then small retailers will be the most sought after retail entities, especially by those marketers. Who are keenly looking at penetrating semi-urban and rural areas.

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*** ***
E-BANKING AND ROLE OF IT IN INDIAN BANKS

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Abstract
The banking industry worldwide is continuously evolving in the face of rising competition, changing regulatory requirements and demanding customers with varying needs and degrees of sophistication. In this context, information technology is no longer merely a support function but one of the most crucial competitive differentiators in developed and emerging markets. In India, new private banks and foreign banks were the first to realise this potential and focus on developing the right IT model. This helped them to garner a significant share of the Indian market and allowed them to provide high-quality services at low costs. To find out more about the IT capability of Indian banks, we launched a comprehensive benchmarking survey across 11 leading banks in India. This survey was part of our annual effort to identify what really matters in IT for banks across the globe including those in Europe, Asia, and Latin America. The results of the benchmarking survey reinforce the strong linkage between IT capability and financial performance in banks. The top-performing banks could achieve high income growth and low cost-income ratios while keeping technology budgets in control. The survey reveals that IT effectiveness at the top Indian banks is world-class. Most banks in India have used IT to achieve superior business performance, driven mainly by the cost advantage in India, the focus on avoiding legacy systems, and superior IT governance.

Keywords: Competition, customers, Foreign banks, benchmark survey

INTRODUCTION
McKinsey’s IT benchmarking survey assesses the level of IT capability and how it links to business performance: as observed in banks across the world, there is a strong correlation between capability and business performance.

MOST BANKS IN ASIA ARE INCREASINGLY FOCUSING ON IT
Globally, banks have realized the need to use IT as a critical business enabler. Our analysis of 25 leading banks in Asia indicates that players are increasing focus and spend on IT as well as tailoring it to suit their strategic and market contexts (e.g., boosting applications capabilities to catch up with more sophisticated MNCs, building infrastructure scale in high-growth, low-cost countries). This is reflected in the percentage of total operating expenses allocated to technology. Except for some multinational banks, this ratio increased for most Asian banks between 2013 and 2015. The trend is prevalent in both high-cost and low-cost countries. At least 70 per cent of banks with high income growth and operating efficiency, use IT as a critical enabler. Banks that lack

EFFECTIVE IT SPENDS
High spending on IT do not necessarily translate into higher profitability. Reasons for these high spends could be high daily operational costs and low adaptability to the business. The top-performing banks tend to invest more in innovation and differentiation and to better engage IT with the business. Our research indicates that top performers spend 45 per cent of their IT budgets on innovation (new services or capabilities) while lower ranked banks spend only 29 per cent. Top performers spend more of their application budgets on customer-facing and primary processes such as executing payments, processing mortgages, or handling securities than on support processes such as HR, risk, and finance. Also, they focus more on removing internal inefficiencies using workflow management systems and providing customers with a wider range of services through all channels: branches, ATMs, web and telephone.

GREATER VALUE GENERATED FROM INVESTMENTS
Though most banks today appreciate the power of technology, however they are unable to create value from technology spends they incur. This is due to lack of clarity on which areas to target, undecided focus on each area (to prevent under-focus and over-focus), a poor understanding of IT capabilities, low user acceptance and poor delivery. Top-performing banks ensure strong alignment between technology and business. They closely monitor development of IT functionalities and maintain a high degree of interaction with the business to steer the initiatives in the right direction. Strong management processes are
set up to assess the final value delivered from an end-user perspective.

**BETTER COMPLEXITY MANAGEMENT**

Complexity has been one of the major bottlenecks to improved efficiency. Problems include negotiation of multiple interfaces, non-integrated customer information, duplication of functionalities and disjointed IT systems. Most leading banks recognize this problem and have continually streamlined their application portfolios and infrastructure. They use standard interfaces, strongly integrated architecture and more middleware solutions. Also they are actively involved in decommissioning and rationalising applications and creating a robust architectural framework. This helps banks in achieving high operating efficiency and improves their ability to respond to changing business needs.

**STRONGER GOVERNANCE AND MANAGEMENT APPROACHES**

Contrary to common notions about successful IT practices in banking, one of the most critical success factors is the management of technology and its integration with business functions. The banks that performed best on our IT governance benchmarks have higher profit-to-assets ratios, suggesting that well-run banks manage their technology well. They have instituted strong IT governance boards to set up business-aligned priorities. To provide transparency in true technology costs, some banks impose charge backs on their business units for all capital expenditure, development, infrastructure and overhead costs. IT performance is measured against predefined key performance indicators, based on end-user perspectives. The focus is on reducing costs, increasing processing speed and maximizing business impact.

**SELECTIVE USE OF OUTSOURCING WITH HIGHER IMPACT**

The adoption of outsourcing is increasing across most global banks. In Asia, percentage of banks outsourcing increased from 67 per cent in 2004 to 79 per cent in 2014. Although the degree of outsourcing varies from player to player, our research highlights that the best-performing banks are very selective about the areas they outsource and the level to which they outsource. Their focus is more geared towards outsourcing maintenance of applications and desktops. This selective focus coupled with strong vendor management processes and clarity about the expected benefits, allows top banks to realize much higher benefits from their outsourcing deals.

**KEY DRIVERS OF SUPERIOR PERFORMANCE**

To better understand the strong IT position that Indian banks have achieved, we analysed the key drivers of their performance. We found that India’s overall technology prowess accounts for some of it, and the capabilities of Indian banks for the rest.

India advantage:

Indian banks’ IT labour costs are typically 40 to 60 per cent lower than those of banks in the Asia-Pacific region and Europe, respectively. This has helped them to attract high-potential talent at minimal cost and to invest their savings in more innovation and growth. Intense competition in the Indian software industry and a focus on vendor selection has helped banks develop new applications at affordable prices. They negotiate flexible vendor contracts and monitor them continually to allow for timely renegotiation when opportunities arise. In fact, the cost of new software is now only a fraction of the original cost. As a result, many banks are undertaking complete renewals rather than paying high amounts to maintain old software.

**AVOIDING LEGACY SYSTEMS**

The best Indian banks spend relatively more on revamping their infrastructure. They replace their servers few years and keep their computing speeds up-to-date. In contrast, banks in developed markets tend to be stuck with mainframes, which typically suffer from inadequate platform choices and low operating efficiencies. New trends in server technologies (e.g., virtualization and grids) make servers increasingly more attractive as mainframe replacements. Though many global banks have still not adopted new technology due to concerns about the sunk IT investments and the obsolescence of staff skills, Indian banks have transformed rapidly. The six largest Indian banks have now implemented or are in the process of implementing real-time integrated core banking systems using advanced technology. They are using third-party services for systems integration and data processing. All these transformations have helped Indian banks optimize their infrastructure and reduce system complexity.

**SUPERIOR IT GOVERNANCE AND HIGH ALIGNMENT WITH BUSINESS**

Many Indian banks emphasis governance, with a strong in-house IT division. They are aligned with the business and effective management process are in place. Incumbents and attackers are doing equally well on this front where top management focuses strongly on IT. In fact, one of India’s leading banks does not have a CIO. Instead, technology is directly managed by the CEO. Further, in-house IT teams are also involved in strategic planning for the organisation. The CIOs of most banks seem to understand the business requirements and ensure that all services are delivered. Strong IT governance has been established, with a well-defined governance committee and project management office, which assists timely and effective
implementation of various technology projects. Such focus has helped in breaking traditional silos and has spread ownership of IT throughout the organisation.

COMPETENT OUTSOURCING

Indian banks, especially the attackers, seem to be outsourcing application development and infrastructure heavily compared to top-performing global banks. One of the main reasons for this has been low in-house capacity. As many Indian banks today are growing at phenomenal rates using more indirect channels (ATMs, internet banking, etc.), they lack the resources required to augment technology. The availability of high-quality vendors at affordable prices has also supported their outsourcing decision. Hence several top banks have elected to outsource functions such as systems integration, the building or expansion of a data centre, and data processing. In channels and branches across India. The practice looks appealing but can lead to unforeseen difficulties if the business context changes rapidly.

CONCLUSION

To get complete picture of how Indian banks perform, attackers and incumbents were compared. The results of the survey bring out stark differences, confirming that attackers are more effective in using technology to promote growth while remaining operationally efficient. One explanation lies in their origins. India opened banking to the private sector less than 15 years ago. To compete with established incumbents, these banks used low-cost technology and operations to address the urban mass market. And the attackers have emerged superior on many fronts.

In India, attackers are clearly outperforming incumbents by directing their IT spends the right way with more of a focus on innovation than on daily operations. They are continually seeking to develop flexible new-age systems and reduce maintenance costs. Their high spending on value-adding areas, e.g. application development, data centers and networks versus application maintenance and end-user computing, reflects this focus. Incumbents are mainly occupied with managing their large systems and complex middleware. Application development is directed more towards augmenting their existing systems with middleware extensions and auxiliary systems, which has resulted in low value addition to their business.

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