OPPORTUNITIES IN DIGITAL TRANSFORMATION

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The Digital Transformation Opportunity
Today, There are 3.6 billion people online…

What Happens online
In 60 Seconds?

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Technological Adoption Accelerating

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Sources: United Nations (radio, TV, internet); Sony (Walkman); Facebook (Facebook); Wall Street Journal reporting of Steve Jobs speech (iPhone).

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Years to Reach 50 Million Users

- The smartphone changed everything
- Commerce, financial services, learning, entertainment, etc.
  now in everyone’s pockets
- Instant everything and wealth of data

Years

<table>
<thead>
<tr>
<th>Years to Reach 50 Million Users</th>
<th>Radio</th>
<th>TV</th>
<th>Walkman</th>
<th>Internet</th>
<th>Facebook</th>
<th>iPhone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38</td>
<td>13</td>
<td>10</td>
<td>4</td>
<td>3.7</td>
<td>2.8</td>
</tr>
</tbody>
</table>
Most Valuable Companies
Over A Century: Tech Firms Dominate

10 Largest Public Companies in the World
As of 28 September 2018

<table>
<thead>
<tr>
<th>Company</th>
<th>Market Capitalization (in USD billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple Inc</td>
<td>900</td>
</tr>
<tr>
<td>Amazon.com</td>
<td>650</td>
</tr>
<tr>
<td>Microsoft</td>
<td>600</td>
</tr>
<tr>
<td>Alphabet/Google</td>
<td>500</td>
</tr>
<tr>
<td>Berkshire Hathaway</td>
<td>400</td>
</tr>
<tr>
<td>Facebook</td>
<td>350</td>
</tr>
<tr>
<td>Alibaba</td>
<td>300</td>
</tr>
<tr>
<td>Tencent</td>
<td>250</td>
</tr>
<tr>
<td>JPMorgan Chase &amp; Co</td>
<td>200</td>
</tr>
<tr>
<td>Johnson &amp; Johnson</td>
<td>150</td>
</tr>
</tbody>
</table>

70% are tech firms

Source: Bloomberg

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Digital Transformation Defined
Digital Businesses are More Valuable

Digital businesses
• Recurring & service-oriented customer relationships
• Data rich – measure everything
• Data used during customer engagement

Non-digital businesses
• Transactional
• Data light – no situational awareness
• Data *may be* used after a customer engagement

Big Digital Natives Set the Pace
• Disrupt with data & AI
• Distribute via mobile & cloud

Legacy Businesses At Risk
• Must rebuild with technology

Investment Opportunities
• Attractive digital natives
• Vendors enabling transformation

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Retail Transformation
The Store Comes to You

Old Way – Weekly Visits to the Store

New Way – The Store Comes to You

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Grocery Stores Digitize

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Media Transformation
Buy to Subscribing

Old Way – Buy & Download

New Way – Subscribe

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Apple Transforms iTunes

It hits all the right notes.
Stream 50 million songs ad-free.
Download your favorite tracks. Play them offline.
Access your entire iTunes library.
Get exclusive and original content.

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Transportation Transformation
Taxi’s -> Ride Sharing

Old Way – Every City is Different

New Way – Uber Just Figures it Out

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Taxi’s Digitize – Sort Of

Flywheel - The Taxi App
Flywheel Software, Inc.

3.3 stars, 68 ratings
Free

But only San Francisco, San Diego, Portland, Seattle

iPhone Screenshots

Request a cab with one tap
Know your cab is on the way
Get notified when your cab arrives
Pay automatically with your phone

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Many Emerging Digital Platforms

Source: Franklin Templeton Investments

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Technology Sector Outlook and Valuation
Technology Sector Outlook

1. Current Environment
   • Enterprise IT spend robust
   • Consumer IT spend stable
   • Some weakness in China

2. What about Volatility?
   • Interest rate concerns
   • Trade wars
   • Regulatory uncertainty

3. Long Term View
   • Growth – Many secular themes
     • AI, cloud, e-commerce, payments, IOT
     • Quality – Profitable with capital returns
     • Valuation – Very reasonable

Source: Franklin Templeton Investments, as of 28 September 2018

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Sector Valuation Reasonable
With Better Growth, High Quality & Net Cash

Price / NTM EPS

Nowhere near this

Almost no premium, especially after removing net cash

6% premium to S&P 500 but with
- Secular growth
- Strong business models
- Net cash – Just 1 of 2 net cash sectors
- Capital returns w/tax reform

S&P 500 Info Tech index trades 36% below +1 standard deviation level of 25.6x

S&P 500 Info Tech index P/E 16.5x

Inline with 28-year median P/E of 16.5x

Sources: Bloomberg, as at 30 September 2018. Past performance is not an indicator or a guarantee of future performance.

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## Tech Benefits on a Relative Basis from Low Debt in a Rising Rate Environment

### S&P 500 Sectors – Debt-to-Market Cap Ratio
As of 30 June 2018

<table>
<thead>
<tr>
<th>Sector</th>
<th>Debt-to-Market Cap Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care</td>
<td>-3%</td>
</tr>
<tr>
<td>Consumer Discretionary</td>
<td>9%</td>
</tr>
<tr>
<td>Energy</td>
<td>13%</td>
</tr>
<tr>
<td>Consumer Staples</td>
<td>15%</td>
</tr>
<tr>
<td>Industrials</td>
<td>18%</td>
</tr>
<tr>
<td>Materials</td>
<td>15%</td>
</tr>
<tr>
<td>Financials</td>
<td>79%</td>
</tr>
<tr>
<td>Real Estate</td>
<td>34%</td>
</tr>
<tr>
<td>Telecomm Services</td>
<td>57%</td>
</tr>
</tbody>
</table>

Source: © 2018 FactSet. See www.franklintempletondatasources.com for additional data provider information. Past performance is no guarantee of future results.

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We Agree: Data & Artificial Intelligence Underlies The Biggest Themes

Source: The Economist, July 2017
Opportunities in Artificial Intelligence

Supply Side – Some Good Businesses
- Enabling AI technology suppliers
- Memory: Micron
- GPU: Nvidia
- FPGA: Xilinx, Intel
- Cloud Vendor: Amazon, Alibaba, Microsoft, Google
- Semiconductor Capital Equipment: Applied Materials, KLA Tencor, LAM Research

Demand Side – Many Excellent Businesses
- AI users with unique datasets
- Social: Facebook, Tencent
- Search: Google
- e-Commerce: Alibaba, Amazon
- Financial Services: Visa, MasterCard, Alibaba, Tencent, PayPal, Square
- Security: zScaler, Cisco, CloudFlare
- Application Software: Microsoft, ServiceNow, Salesforce, Workday

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Sub-Sector Outlook and Investment Themes
Industry Outlook

**NEGATIVE**
- Enterprise IT Hardware
- Telecom Equipment
- Consumer Electronics
- Legacy IT Services
- Legacy Systems Software

**NEUTRAL**
- Semiconductors

**POSITIVE**
+ Cloud Computing Services
+ Application Software as Service
+ Internet e-Commerce & Advertising
+ Internet of Things
+ Financial IT Services and Digital Payments
+ Semiconductor Capital Equipment

Source: Franklin Templeton Investments, as of 28 September 2018

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Cloud Computing Services

Definition - Storing and accessing data and applications over the Internet

+ Top Priority for Many Companies
+ At least USD 1 trillion opportunity
+ Good, low churn businesses
  • Developers commit to cloud stacks
  • Data hard and expensive to move
  • Margins already expanding

Top Investments
+ Amazon is the market leader in the West
+ Alibaba has strong position in China
+ Microsoft is leveraging on the massive base
+ Google is strong in AI/data workloads

1. Source: Franklin Templeton Investments, as of 28 September 2018. The information provided is not a recommendation to purchase, sell, or hold any particular security and should not be construed as an endorsement of or affiliation with Franklin Templeton Investments.
Application Software As A Service

- SaaS transition = new value
- Expands market 2-3x
- Easier to access entire market
- AI opportunities with data assets

Top Investments
- Salesforce is the market leader in CRM
- ServiceNow in workflow
- Workday in human resources
- Microsoft in business productivity

Source: Franklin Templeton Investments, as of 28 September 2018
Internet: E-Commerce

E-COMMERCE
The buying and selling of products via electronic means such as the Internet.

WHY?
• Long way to go
  • Just 10% penetration in US & 20% in China
  • Better distribution & new categories
  • Taking online learnings into offline retail
  • Search, FinTech, Media, Advertising
• Sales growth exceeds retail growth:
  15.5% vs 3.3% year-over-year

Source for sales growth: U.S. Census Bureau. Based on U.S. sales, year-over-year, as of 31 December 2017. Updated annually, one year lag.
Source for online purchases: eMarketer, Inc. 2015. Most recent data available.

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Internet: Advertising

- USD 508b advertising market in 2017
- Internet at 41% share in 2017
- Ad spend follows audiences
  - Facebook has 2 billion users
  - Tencent has nearly 1 billion users
- Pricing follows productivity
- Internet expanding opportunity

Top Investments
- **Google** dominates the search/mobile
- **Facebook** is the leader in social media
- **Tencent** is the leader in Asia
- **Amazon** becoming significant

Source: Bloomberg and Global Magna, March 2018

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Financial IT Services / Digital Payments
A Perfect Storm for Digital Disruptors to Exploit

Key Growth Themes

Secular Growth
  • C2B & B2B payment mostly non-digital

Transformative
  • Mobile - A bank and lender in everyone’s pocket
  • New Trust - Blockchain transforms trust
  • Automation – Blockchain, robotic process automation
    & software removes back office costs

Enabling
  • Digital payment -> eCommerce

Large and Compounding Data Sets
  • Drives AI / Machine Learning models
  • Enables new customer insights and risk scoring
## Internet of Things

### THE INTERNET OF THINGS

Adding Internet capability to devices beyond just computers and smart phones.

<table>
<thead>
<tr>
<th>WHY?</th>
<th>Top Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Disruptive with potential for big winners</td>
<td>+ Amphenol</td>
</tr>
<tr>
<td>• Potential economic impact: $11 trillion per year by 2025</td>
<td>+ Twilio</td>
</tr>
<tr>
<td>• Connected devices: 2006: 2 billion</td>
<td>+ Analog Devices</td>
</tr>
<tr>
<td></td>
<td>2020: 200 billion</td>
</tr>
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<td></td>
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</table>


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Summary

• Key tech opportunity is enabling the Digital Transformation of the global economy
• We see 10+ years of growth ahead for the leading digital platforms and digital enablers
• Sector valuation is very reasonable
• Own the quality digital disrupters and those vendors enabling digital transformation
• Recent volatility has created an opportunity to increase exposure to the best positioned companies
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