EVALUATION OF UNIVERSITI MALAYSIA PAHANG ONLINE RESOURCES ACCESS WITH MOBILE TECHNOLOGY TOWARDS STRATEGIC KNOWLEDGE MANAGEMENT

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Vision 2020

1 NATIONAL TRANSFORMATION PROGRAMME

NATIONAL KEY RESULTS AREAS (NKRA(s))
- Reducing Crime
- Fighting Corruption
- Assuring Quality Education
- Raising Living Standards of Low Income Households
- Improving Urban Public Transport
- Improving Rural Development
- Addressing the Rising Cost of Living

NATIONAL KEY ECONOMIC AREAS (NKEA(s))
- Oil, Gas & Energy
- PLM Oil & Rubber
- Financial Services
- Tourism
- Business Services
- Electronics & Electrical
- Wholesale & Retail
- Education
- Healthcare
- Communications Content & Infrastructure
- Agriculture
- Greater Kuala Lumpur / Klang Valley

STRATEGIC REFORM INITIATIVES (SRI(s))
- Competition, Standards and Liberalisation
- Public Finance Reform
- Human Capital Development
- Public Service Delivery
- Narrowing Disparities
- Reducing Government's Role in Business

Source: http://www.pemandu.gov.my/
“The New Economic Model together with continuous improvements in the communications and ICT infrastructure seeks to transform the Malaysian economy into one with high income and quality growth over the next decade with knowledge and innovation as our key elements.”—YAB DATO’ SRI MOHD NAJIB BIN TUN HAJI ABDUL RAZAK at the 10TH ASEAN Telecommunications and Information Technology Ministers Meeting (TELMIN-10), January 13 2011

Source: Malaysia Public Sector ICT Strategic Plan 2011 – 2015 (page 2)
More than half of the agencies supported the direction to establish a Consolidated Data Centre and Consolidated Disaster Recovery Centre;

Emphasis should be placed on skills and capacity building;

The appointment of agency’s Chief Information Officer (CIO) and its governance structure has improved interaction processes within and between the agencies; and

Implementation of Knowledge Management initiatives in the agencies has instilled knowledge sharing culture, aid resource allocation based on knowledge portfolio and assist in decision making.

Source: Malaysia Public Sector ICT Strategic Plan 2011 – 2015 (page 4)
In **knowledge-based economy**, the role of institute of higher education is very important in shaping the future landscape of a country not only to supply the human capital but to prepare the people to venture into a changing world economy. Therefore, the function of the related department such as library in which responsible to manage the knowledge of the institution also become more challenging than before.
Purpose

The purpose of our study is to evaluate the Universiti Malaysia Pahang library readiness for implementation of mobile technology such as smartphone and tablet towards strategic knowledge management.
Mobile Technology

- significantly change people (Boretos, 2007) - include business and government.
- new opportunity for new library services - critical impact on scholarship, study, research and librarianship (Hahn, 2008).
- using smartphone camera to scan the books’ barcode (Chen, Tsai, Girod, Hsu, & Kim, 2010).
Mobile technology specifically smartphone can be used for strategic knowledge management (Carayannnis, Clark, & Valvi, 2013).

smartphone can somehow change how its’ user behave (Kim, Briley, & Ocepek, 2015) – catalyst for organizational or institutional CHANGE.

library users now can be more active in producing knowledge instead of accessing the knowledge solely (Pan et al., 2015).
Figure 1: Concept of Smartphone modules for library user
**Methodology**

- Primary data – quantitative analysis of online access on UMP library online resources at [http://ezproxy.ump.edu.my](http://ezproxy.ump.edu.my)
- The website been installed with Google Analytics (GA) tracking code.
- Data duration: year 2011 – 2014
- Scope: Mobile device access excluding typical computer (desktop or laptop).
Some of UMP Subscribed Online Resources
Google Analytics Dashboard

- Audience Overview
  - Sessions: 344,083
  - Users: 98,761
  - Pageviews: 747,638
  - Pages / Session: 2.17
  - Avg. Session Duration: 00:02:32

- Demographics
  - Language
    1. en-us: 297,973 (96.57%)
    2. en-gb: 38,045 (11.06%)
    3. en: 1,825 (0.53%)
## Result & Discussion

<table>
<thead>
<tr>
<th>Year</th>
<th>Sessions by Year Quarter</th>
<th>Total</th>
<th>Annual Increment (%)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
</tr>
<tr>
<td>2011</td>
<td>9</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>2012</td>
<td>119</td>
<td>203</td>
<td>261</td>
</tr>
<tr>
<td>2013</td>
<td>383</td>
<td>635</td>
<td>521</td>
</tr>
<tr>
<td>2014</td>
<td>586</td>
<td>937</td>
<td>570</td>
</tr>
</tbody>
</table>
# UMP online resources: Top 10 mobile device sessions

<table>
<thead>
<tr>
<th>Mobile Device Manufacturer</th>
<th>Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple</td>
<td>2942</td>
</tr>
<tr>
<td>Samsung</td>
<td>2638</td>
</tr>
<tr>
<td>Sony</td>
<td>284</td>
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<tr>
<td>Lenovo</td>
<td>185</td>
</tr>
<tr>
<td>Sony Ericsson</td>
<td>141</td>
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<tr>
<td>Asus</td>
<td>90</td>
</tr>
<tr>
<td>Microsoft</td>
<td>62</td>
</tr>
<tr>
<td>Feiteng</td>
<td>58</td>
</tr>
<tr>
<td>HTC</td>
<td>51</td>
</tr>
<tr>
<td>Nokia</td>
<td>39</td>
</tr>
</tbody>
</table>
Mobile Device Model

262 different mobile devices
Centered moving average and linear regression method

Season | Centered Moving Average (4) | Forecast
--- | --- | ---
Year 2011 |  |  
Year 2012 |  |  
Year 2013 |  |  
Year 2014 |  |  
Year 2015 | **1517** | **+35%**
Mobile access originated country
Strategic Knowledge Management with Heat map visualization
Future Research

- Details analysis of targeted resources accessed by mobile device.
  - Type of user – academician, student, administrator & librarian.
  - Location analytics with heatmap visualization.
  - Time histogram – high frequency of access with daily or weekly segmentation.

- Awareness & acceptance model for UMP librarian in strategic knowledge management.

- User impact analysis of strategic knowledge management towards economical competitiveness:
  - Individual
    - Student : academic performance, employment etc.
    - Staff : productivity, job performance, job satisfaction, promotion etc.
  - Organizational
    - Departmental – productivity and quality.
    - Institutional – student performance, graduate quality, R&D revenue, commercialization, productivity etc.
Conclusion

- Mobile technology can offer many new opportunities in strategic knowledge management.
- It demands a good tactical by the leader, committed executives, effective collaborative methods and a good user support system (Carayannis et al., 2013).
- The use of mobile technology in strategic knowledge management will be becoming a strong indicator for the university to consistently leading in the higher education industry as well as preparing the nation to become a developing country in 2020.
- **Inter-department involvement is critical** on how to take advantage of the mobile technology usage to increase the **quality of services** and **organizational productivity** as a result of strategic knowledge management initiatives.
References


“The first step toward change is awareness. The second step is acceptance.”

-Nathaniel Branden

Thank you

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