Sir Arthur Lewis Memorial Lecture

Confronting the Fourth Industrial Revolution

Cecil St Jules
November 6th, 2019
Overview

Sir Arthur Lewis

Introduction

Historical Frame

Third Industrial Revolution

Then and Now

Modern Payment Systems

Fourth Industrial Revolution

Power Generation

Artificial Intelligence

Resilience

New Technology

Governance and Anti-Corruption

Options for growth
Cecil St. Jules

- Wall Street Veteran
- 28 Years in Money Center Finance
- BNYMellon
- Aponia Data (GRC)
- Emtech (Blockchain Fintech)
- Cricket
- Guitar
- Formula One Racing
My Story

Core of US Bond Market
Shadow Banking
Sept 11th, 2001 Recovery
Housing Crisis/Asset Valuation
Post Crisis Management
History

First Industrial Revolution

Sir Arthur at University of Manchester

Second Industrial Revolution

Cloud 1.0, Basic Storage
Online Payments – Personal
M-pesa
Securitization

Third Industrial Revolution

Blockchain
5G Communications
Digital Transformation
Cloud 2.0
Third Industrial Revolution

° Global Positioning System
° Handheld computing
° Cellular Networks
° Basic Cloud Storage
° Development of eCommerce platforms
Major Differentiators


…Financing Systems, Education levels, Trade Liberalization, Technology, Values
Evolution of Payment Systems

Gold Coins
Currency
Online Payments
Blockchain
Fourth Industrial Revolution

- Power Generation/Renewables/Solar
- Digital transformation/Cloud 2.0
- Shared Economy/Millennials
- Environmental, Compliance and Governance factor into Cost of Capital
- Blockchain Technology/Smart Contracts/Stable Coin
- Robotics/Artificial Intelligence/Deep Learning
- Rapid Scalability/Variable Cost Model
- Centralized Policy Control
Number of US power plants 2018 - predominant source (Coal vs Renewables)

Source: US Energy Information Admin
kWhs produced (millions)

Source: US Energy Information Admin
AI Analytics connections to Unstructured Data is the future of Audit Testing

This on-site investigation focused on the performance of the Certified Advanced 208-Compliant air bag system in a 2005 Ford Escape XLT 4x4 sport utility vehicle. This two-vehicle crash occurred in July 2014 at 1539 hours in the state of Colorado.

<table>
<thead>
<tr>
<th>Part of car</th>
<th>Certified Advanced 208-Compliant air bag system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model year</td>
<td>2005</td>
</tr>
<tr>
<td>Manufacturer</td>
<td>Ford</td>
</tr>
<tr>
<td>Model</td>
<td>Escape XLT 4x4</td>
</tr>
<tr>
<td>Incident</td>
<td>Two-vehicle crash</td>
</tr>
<tr>
<td>Date of incident</td>
<td>July 2014</td>
</tr>
<tr>
<td>Time of incident</td>
<td>1539</td>
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</table>
### Increasing frequency of intense hurricanes

<table>
<thead>
<tr>
<th>Category</th>
<th>Speed Range</th>
<th>Impacts</th>
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</thead>
</table>
| Category 4 | 130 – 156 mph | Well built frame homes can sustain severe damage  
Most trees snapped  
Power outage will last for weeks  
Most of area unhabitable for weeks/months |
| Category 5 | 157 mph or higher | High percentage of frame homes destroyed  
Residential areas isolated  
Power outage will last for weeks possible months  
Most of area unhabitable for weeks/months |
Pillars for Economic Recovery/Resilience

° Distributed power generation/Cost of refrigeration
° Expansion of parametric insurance/Agriculture/Fishing
° Architecture/Hurricane resilient structures
° Cloud data-based storage
° Centralized administration of health records
Major Parametric Insurance Payouts (CCRIF SPC)

Source: CCRIF SPC
Benefits of Modern Cloud based business model

- No Investment in equipment
- Benefits from updates
- Compliance Updates
- Reporting requirements
- Scalable variable cost model
- Synchronicity with personal apps
8.2 Achieve higher levels of economic productivity through diversification, technology upgrading and innovation, including through a focus on high-value added and labor-intensive sectors.

8.3 Promote development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro- small- medium sized enterprises, through access to financial services.

8.10 Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.
Human Factors for Digital Currency Adoption

- Governance framework
- Consumer education
- General acceptance/Use in basic commerce
- Overcoming fear
- Misinformation
- Tax evasion
Infrastructure issues for Digital Currency Adoption

- Communication network and resilience in hurricane belt
- Regulations relating to taxing of virtual assets
- Regional/Global interoperability
- Reliance on AML/CFT process of counterparties
- Recognition of tax regimes and honoring international treaties
Anti Corruption Guidance for Policymakers

° Improve mutually supporting institutions/Procurement/Revenue Admin/
  Heads of Agencies, ministries and public enterprises must promote ethical behavior

° Government need to keep pace with evolving technology
  Chile and Korea have online procurement platforms

° Promote transparency and free press
  Columbia, Costa Rica and Paraguay use online platforms where citizens can monitor the status of projects. A free press enhances the benefits of transparency

Source: Finance and Development, Sept 2019
Business Development Measures

Education and skills development

Business Incubation and Acceleration

Governance and Risk Management

Anti Corruption Measures
Thank You

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