

Sailing the Seven Seas, a Blue Ocean of the Internet of Things

Panel

Aaron M. French
University of New Mexico
afrench@unm.edu

J.P. Shim
Georgia State University
jpshim@gsu.edu

Barbara Stevens
Central Intelligence Agency
nld_barb@yahoo.com

Robert St. Louis
Arizona State University
St.Louis@asu.edu

Jason Clark
Via Studio
jason@viastudio.com

Abstract

Over the past decade, the world has been swimming in an ocean of technology, opening the doors for many opportunities as industrial boundaries continue to change. Blue Oceans have opened their waters for new industries such as social networking, smart technology, mobility, and big data. Looking forward, new trends such as Internet of Things and technology advancements towards 5G mobile technology are paving the way for new markets and industries along with further advancements in Big Data. The invited panelists will discuss these emerging topics and the Blue Oceans that are changing the world.

Keywords

Internet of Things, 5G technology, Big Data, Blue Ocean

Panel Overview and Objective

The creation of the smart phone altered the boundaries of the mobile market creating a Blue Ocean that has since changed the world. It allowed ubiquitous connectivity to the Internet through technologies such as Wi-Fi, 3G, and 4G service. This sparked a trend of disruptive technologies in the consumer market with an increased demand for connectivity. Many companies viewed these technologies as disruptive while others envisioned innovation creating a Blue Ocean of technology that would impact almost every industry in the world. This Blue Ocean of technology is the direct result of the Internet of Things.

The Internet of Things (IoT) is a new paradigm revolutionizing the world. The term Internet of Things refers to the ubiquitous connectivity to the Internet by people and objects (Perera et al, 2014). This connectivity is fueled by the growth of wireless technologies such as Wifi and mobile communications embedded in objects we use. With current advancements in 4G technology and the future prospects of 5G, industrial boundaries are shifting, paving the way for future opportunities and innovation. Table 1 outlines several areas where consumer industries have been impacted by IoT.

Table 1: Internet of Things Examples			
Home	Appliances	Health	Smart Clothes
<ul style="list-style-type: none"> • Smart Home Security • Smart Sprinkler Control • Hydroponic System • Smart Propane Tank • Smart Door Lock 	<ul style="list-style-type: none"> • Smart Refrigerator • Smart Washing Machine • Smart A/C • Smart Stove • Smart Dishwasher 	<ul style="list-style-type: none"> • Blood Pressure Monitor • Cholesterol Monitoring • Smart Sleep System • Smart Cardio • Glucose Monitoring 	<ul style="list-style-type: none"> • Smart Shirt • Smart Socks • Bluetooth enabled insoles • Technology Glasses • Smart Watch

Blue Ocean strategy is defined by the development of a new industry or altering the boundaries of an existing industry where first movers obtain benefits such as uncontested customer demand free from competition lasting around ten to fifteen years (Kim and Mauborgne, 2004). However, due to technological replicability, the benefits gained from Blue Ocean strategies in IT are significantly less than other industries. Apple's iPhone enjoyed dominance in the market from January 2007 until November 2008, when Google launched the first Android device creating Apple's first formidable opponent. The IoT revolution is affecting almost every industry and altering the boundaries of competition. However, these Blue Oceans are growing smaller as technology continues to advance minimizing the benefits once gained.

The purpose of this panel discussion is to discuss current and future trends in the IT industry and how IoT is altering the boundaries of various markets. The implementation of 5G holds promises to further increase our connectivity in a world shifting towards smart technology. All of these technologies are integrated through mobile communications with Big Data becoming the foundation of everything. This panel will discuss these technologies and how they all merge to create a global network of data and capabilities.

Panel Layout/Design

- Each panelist will be presenting an assigned topic via Microsoft PowerPoint
- The Panel Chair will give a brief overview of the technologies being introduced
- Each panelist will present/discuss current issues, trends, and future directions
 - The first panelist will discuss 5G technology and the future of ubiquitous computing.
 - The second panelist will continue by describing the Internet of Things and how ubiquitous technology is changing the world. Previous advancements in technology have connected people all over the world. Future advancements in technology will connect people to physical objects all over the world.
 - The third panelist will expand of the first two and discuss Blue Ocean opportunities
 - The fourth panelist will discuss the how these new technologies changes the landscape of Big Data and Data Analytics. This will include a discussion of how data is collected from people and objects in the IoT environment and the types of analytics that can be performed.
 - Panel Chair will summarize how these technologies are connected and dependent on each other. Then conclude with future directions in research as it pertains to 5G, IoT and Big Data.
- All panelists will also discuss future directions of technologies, data generation, and analytics.
- The floor will then be open for questions from the audience.
- The panel session will end with closing remarks acknowledgement for the panelists' participation.

Panel Participants

Aaron M. French, University of New Mexico, Panel Chair

He is currently teaching MIS at University of New Mexico. His research interests are social networking, big data and data warehousing, cross-cultural studies, technology acceptance, diversity, and eCommerce. He has received Outstanding Teacher of the Year awards from Mississippi State University and Kyungpook National University.

J.P. Shim, Georgia State University

He is a full-time CIS faculty at Georgia State University. Before joining Georgia State University in 2011, he was a Larry and Tonya Favreau Notable Scholar and Professor of Business Info Systems at Mississippi State University. He serves on Wireless Telecommunication Symposium as Program Chair. He served on 2013 AMCIS as Program Co-Chair. He has received grants and distinctions, including NSF, Microsoft, Booz-Allen & Hamilton/ASE, Mississippi Institutions of Higher Learning, Kia Motors, and CYR International. His research interests are DSS, social networking, analytics, and telecom.

Barbara Stevens, Central Intelligence Agency

Dr. Barbara Stevens is Deputy Chief of the Emerging Issues and Advanced Analytics Group, a Central Intelligence Agency (CIA) unit that works across regional boundaries to deal with the Agency's most difficult data analysis issues to help inform US foreign policy. She received a Doctorate in Statistics from Florida State University and taught at the University of Georgia before joining the CIA. She has worked as a methodologist and manager in a number of assignments in the Directorate of Intelligence.

Robert St. Louis, Arizona State University

Robert D. St. Louis is a Professor of Information Systems at Arizona State University. He received his AB degree from Rockhurst College, and his MS and Ph.D. degrees from Purdue University. He began teaching at ASU in 1969, but spent the period from 1976 through 1981 working full time as a researcher for state and federal agencies. Dr. St. Louis currently is teaching classes on information management, and conducting research in the areas of document search, enterprise performance management systems, and evidence based decision making.

Jason Clark, Via Studio

Jason Clark is President and CEO of VIA Studio, a digital agency in Louisville, KY. He leads a team of developers, designers, strategists and marketers to work with clients nationwide. Jason and the team at VIA Studio is specifically adept at technology & design solutions to business goals and challenges. You can find out more about Mr. Clark and his company at viastudio.com.

Equipment Required

Projector, Laptop connectivity, Microphones

References

1. Kim, W. and Mauborgne, R. (2004) Blue Ocean Strategy, Harvard Business Review, 82, 10, 76-84.
2. Perera, C., Zaslavsky, A., Christen, P. and Georgakopoulos, D. (2014) Sensing as a Service Model for Smart Cities Supported by Internet of Things, Transactions on Emerging Telecommunications Technologies, 25, 1, 81-93.