Asian Institute of
Digital Transformation

## PRE-READING ASSIGNMENT NO. 2 (4 pages)

**WEEK 1 SYLLABUS: EXPONENTIAL TECHNOLOGIES**
**(The Drivers of Digital Transformation)**

# THE IMPACT OF SMAC IN THE NEW DIGITAL ECONOMY

*SMAC (social, mobile, analytics and cloud) is the concept that the convergence of four technologies is currently driving business innovation and digital transformation.*

**SMAC** is the basis for an ecosystem that enables a business to transition from e-business to digital business. The four technologies improve business operations and help companies get closer to the customer with minimal overhead and maximum reach. The proliferation of structured and unstructured data created by mobile devices, wearable technology, connected devices, sensors, social media, loyalty card programs and website browsing is creating new business models built on customer-generated data. None of the four technologies can be an afterthought because it's the integration of social, mobile, analytics and cloud together that creates a competitive advantage and new business opportunities.

## Evolution and Rise of SMAC

The term “SMAC” was coined in 2011 or 2012 to describe the impact of the *consumerization* of IT. Enterprise computing consisted of one-to-one communication and of software and hardware that lived on premises. The introduction of mobile devices and the increased reliance on cloud computing upended the traditional computing model. The technologies under the SMAC umbrella are as follows:

- **Social:** Social media platforms such as Twitter, Facebook, Instagram and Snapchat have provided businesses with new ways to reach, interact with, target and acquire customers. It has given rise to new job titles such as social media influencer or digital influencer, new marketing tactics such as viral marketing campaigns, and new data sources such as likes, reposts, hashtags and network connections.

- **Mobile:** Mobile technologies and platforms, such as the iPhone and the iPad, have changed the way people communicate, shop and work. The introduction of connected devices and wearable devices, both of which rely on cheap sensors to generate and transmit data, are the basis for new business models and new services offered to customers.
- **Analytics:** Data analytics allows businesses to understand how, when and where people consume certain goods and services. It is also used as a predictive indicator for future customer behavior as well as when physical assets, such as parts of a jet engines, will experience degradation. As the cost for processing power and storage decreased, analytics became a top priority for companies. The open source project Apache Hadoop ushered in a new era of analytics called big data.
- **Cloud:** Cloud computing provides a new way to access technology and the data a business needs to quickly respond to changing markets and solve business problems. It ushered in a new way to build infrastructure, platforms and services. Amazon Web Services was one of the big disruptors in this space.

While each of the four technologies can affect a business individually, their *convergence* is proving to be a disruptive force that is transforming businesses and creating entirely new business models for service providers.

**Naming The So-Called Third Plaform**

SMAC is not the only term that describes this phenomenon. Other groups coined similar terms around the same time. The Aberdeen Group, a technology and services company, came up with the term "SoMoClo" or social media, mobile technology and cloud computing. The consultancy Gartner Inc. described it as the "nexus of forces," consisting of social media, mobile technology, cloud computing and information. Gartner now sees the nexus of forces as a precursor to digital business, which it defines as new business models that blur the physical and digital worlds.

The International Data Corporation (IDC) refers to SMAC as "the third platform." The first platform was the **mainframe**, which began in the late 1950s and continues today. The second platform was the **client/server model**, a concept central to the role of networking where one program requests a service or resource from another program. The third platform is **SMAC**, a combination of *"technology enablers that allow businesses to accelerate their digital transformation,"* according to the IDC. The third platform is accelerated by six innovative technologies including *augmented* and *virtual reality*, *AI systems* and *robotics*.

Some refer to SMAC as the *fifth wave of computing*. The first wave was the **mainframe**, the second was the **personal computer** and so on. The core idea is that technology innovation doesn't dismantle an already-established IT architecture. Instead, they are cumulative with new technologies built on the wave before it. SMAC is no different.

More recently, the **internet of things (IoT)**, a network of connected devices that enables machine to machine communications, is often referenced in relation to SMAC, but exactly where it fits in is still up for debate. IDC considers IoT as one of the six innovation accelerators for the third platform. Some believe IoT belongs under the SMAC umbrella; others see is as extension of the four already-established SMAC pillars.

**SMAC and The Enterprise**

SMAC is the foundation for doing business in a digital economy, where data analytics and information technology are the backbone and the basis for new business models. Major vendors like Amazon, Facebook and Google are often held up as paragons of this new world order.

Older companies, sometimes referred to as *legacy companies*, need to undergo significant transformation, often referred to as "digital transformation," to get there. The transition can be difficult because organizational charts, legacy business processes and legacy technologies, such as early generation CRM systems, often prove to be a hindrance. The legacy infrastructure doesn't become obsolete, but it needs to be adapted if it's going to be of value to a company building digital products and services..

## The SMAC Framework

Although IDC refers to SMAC as the third platform, no single product exists on the market today. Malcolm Frank, executive vice president of Cognizant, encourages CEOs to build what he calls a "SMAC stack" because the value of SMAC is at its greatest when the four technologies are used together. The key is to integrate complex technologies on the backend but provide an easy-to-use customer interface on the front end.

To knit together a system that leverages SMAC technologies, CEOs can select proprietary or open source products to do so, likely building a hybrid stack. Technologies could include NoSQL technologies and machine learning for analytics, cloud services such as integration platform as a service (iPaaS) to manage integration between services and applications, as well as technology that enables machine to machine communication such as near field communication or Bluetooth low energy beacons to transmit data from a connected device to the cloud. Web APIs can be used to connect social media outlets and cloud services to the platform.

The media company Netflix is often cited as an example of a business that has successfully harnessed the power of SMAC. For example, when a Netflix member streams a TV show from the Netflix cloud to their iPad, they are given the option of signing into Netflix with Facebook's social login. After viewing a show, members are given multiple ways to provide social feedback. They can rate content with stars, write reviews and share what they just watched with friends on Facebook or Twitter. Netflix continues to use social media to build and promote its brand. For example, the company creates original content, and by releasing an entire series of episodes at once, it triggers a social media buzz that gets customers talking and builds up a fan base. Customer data is stored in the cloud and Netflix can break down its analysis to such a granular a level that its recommendation engine can personalize suggestions for individual family members who share the same account, a concept known as 1:1 marketing. Proponents of this CRM strategy believe that 1:1 marketing should be the ultimate goal of every SMAC initiative to avoid customer privacy issues related to data sovereignty.

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