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APC FORUM: U-COMMERCE APPS¹

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Smart phones and other mobile devices have enabled ubiquitous commerce (u-commerce) in which customers can conduct business anywhere at any time. At a recent meeting of the SIM Advanced Practices Council, academic researchers **Leyland Pitt** of Simon Fraser University and **Iris Junglas** of the University of Houston updated members on current smart phone applications and made a strong case for using a customer service lifecycle lens to identify ways that mobile computing could become part of an IT strategy.

CURRENT SMART PHONE MARKET

The dominant smart phones in today's market are the iPhone, BlackBerry, and Droid. By June 2010, at least 225,000 apps had been created for the iPhone, which Apple promotes through its online apps store. Developers can easily create and upload apps as long as they meet Apple's basic criteria. In contrast, apps have not played the same role in BlackBerry's business model since it targets business users; only about 3,000 apps were currently available for this device. Because of this vast difference, the researchers focused primarily on iPhone app examples, but presented frameworks that are relevant across platforms.

Examples of the types of apps available to consumers on their iPhones are:

- **AirStrip OB.** This app monitors the vital signs of a woman in labor, enabling a doctor to follow her progress remotely on his or her phone.
- **iBank 3.** This money management app enables users to view all their accounts together on their iPhones and to monitor spending by category.
- **iFood Assistant.** This app, developed by Kraft Foods, suggests meal ideas, stores a user's favorite recipes and ingredients, and even finds the closest grocery store.
- **Loopt.** This social networking app enables friends to share their geographic locations with each other and also propagates information to Twitter and Facebook.
- **ZipCar.** Consumers belonging to this car-sharing organization can reserve a car with their phones and then use them to locate their cars in a parking lot.

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CHARACTERISTICS OF U-COMMERCE

Mobile computing is different from PC computing in a number of ways:

- **Motion detection.** Mobile devices can sense and adapt to how they are positioned and also have a seismic monitor to sense small movements.

¹ The Advanced Practices Council (APC) of SIM is an exclusive forum for senior IT executives who value directing and applying pragmatic research; exploring emerging IT issues in depth; and learning different, global perspectives from colleagues in other industries. Madeline Weiss is the APC Director and Richard Watson is the APC Research Director. This forum was prepared with the assistance of Heather Smith, APC Research Associate.

- **Exact localization.** These devices know one's exact whereabouts facilitating linking one's position to the locations of other entities.
- **Imaging.** Smart phones can take pictures and videos, enabling individuals to carry these with them.
- **Augmented reality.** This new type of app "sees" what is happening around it and combines this data with motion detection, localization and imaging. For example, it can project driving directions onto a road for a driver.

Four characteristics driving the transformation from e-commerce to u-commerce are:

- **Ubiquity.** Mobile devices offer access to information unconstrained by time and space. Once this is recognized, companies can build apps around their information, e.g., ZipCar reservations.
- **Uniqueness.** These phones are unique to individuals and therefore capture the characteristics and location of that person, e.g., the AirStrip OB app.
- **Unison.** Smart phones can be synchronized with other devices, e.g., PCs, to easily provide information consistency. For example, the iBank 3 app gives a customer a coherent view of his accounts.
- **Universality.** Mobile devices can overcome the incompatibilities of different information systems to enable the integration of notes, photos and websites, e.g., iFood.

U-COMMERCE APPS AS PART OF AN IT STRATEGY

The above characteristics can be used by executives in developing a mobile IT strategy. While an app may contain aspects of more than one of these characteristics, it typically has one dominant dimension that makes it outstanding. However, the more an app can leverage these characteristics, the more value it will provide. Companies can classify their own applications along these dimensions in order to determine where and how they might add value in a mobile environment.

Companies should also approach mobile computing from a customer service life cycle perspective. Widely used for consumer products and services in general, this life cycle illustrates four distinct phases:

1. **Requirements.** This phase addresses the following questions: What is it? Do I need one? Which one? How many?
2. **Acquisition.** This deals with how a consumer can obtain a product/service, how much it costs, and when it can be delivered.
3. **Ownership.** This addresses how a product/service is used and how it can be fixed.
4. **Retirement.** This answers questions about how much the product/service costs, if there is a new or better service and how it can be returned.

As an example, ZipCar provides a mobile website for reservations and identifies the closest pick-up location and the most current availability of the car requested. Once confirmed, online payment can be made via the phone and an app will help to locate and open the car. During the time of car ownership, a customer's phone GPS can help with roadside assistance, if needed. Finally, drop-off is simplified: the closest location is identified and an app enables a rental extension, if required.

The researchers recommended that CIOs allocate resources in their organizations to monitor apps in their industry and beyond, and brainstorm potential apps using this customer service lifecycle as a lens to detect areas where mobile computing could be leveraged.

FUTURE RESEARCH

This research team plans to investigate such questions as: how to leverage mobile computing to reach and influence end customers; how to leverage existing IT resources in developing mobile computing; and how mobile computing can be used by an organization to increase productivity, manage knowledge, and ensure quality.

Governance and security considerations, as well as tablet devices, will also be explored.