Is your firm prepared for the next form of commerce? In November, the ISRC welcomed Dr. Rick Watson, who argued that the next revolution in commerce will be u-commerce, or the use of always on, always connected devices to create a ubiquitous network. Dr. Watson discussed the u-space, including the new opportunities for firms and the implications for MIS and businesses.

Revolutions of the Past

Throughout the history of mankind, we have seen many revolutions that have radically changed our view of the world. Einstein's theory of relativity shattered the world of physics, replacing the Newtonian assumptions of time and space. Modern art, focusing upon cubism, changed the art world founded on concepts of realism. Both of these revolutions proposed alternative concepts of space and time. Similarly, business is undergoing a revolution now. Dr. Rick Watson proposes that the next revolution will be in the form of u-commerce, with ubiquitous networks changing the nature of commerce.

Past, Present, and Future Forms of Commerce

Historically, points of commerce were founded around transportation networks. Businesses located themselves near places where transportation stopped – airports, railroad stations, and ports. The development of the Internet as a source of commerce created the opportunity for e-commerce and allowed businesses to do trade without the need to be physically located by transportation ports. Mobile devices have spawned m-commerce, allowing users to connect to networks using specific devices. However, all of these formats rely upon the user knowing the limitations of their devices and a multitude of devices to get to the information that they want. Thus, the final form of commerce will be u-commerce, overcoming these limitations.

u-Commerce: The Final Form of Commerce

Broadly, u-commerce is the use of ubiquitous[1] networks to support personalized and uninterrupted communications and transactions between a firm and its various stakeholders to provide a level of value over, above, and beyond traditional commerce. In short, u-commerce is the creation of a marketplace that reaches individuals where they are at using the devices that they want to use, with the networks doing the work without the user needing to intervene. The table on the page below demonstrates the differences between the u-space, the marketplace, and the marketspace.

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[1] For further information on ubiquitous computing, we refer the reader to our recent future technology briefing on Human-Centric Computing, available at: www.uhisrc.com

Market	Definition	Theme
Marketplace	Traditional physical marketplace	Exchange of goods and services via face-to-face human interaction
Marketspace	Informational marketplace	Exchange of goods and services via computer interaction
U-space	Transcension and integration of marketplace and marketspace	The global integration of the physical and informational to provide value through amplification, attenuation, contextualization, and transcension

With these differences in mind, u-commerce will be…

➢ Ubiquitous. With networks everywhere, all consumer durable devices will be on a network and intelligence and information will be widely dispersed and always accessible.
➢ Universal. There will be devices that work everywhere, on all networks, in all locations, and will always be connected.
➢ Unique. The information provided by the networks will be customized to the person, to the device, and to the context, including the location, time, and role of the user
➢ Unison. Devices will be synchronized in a way that is transparent to the user so that current data is always available.
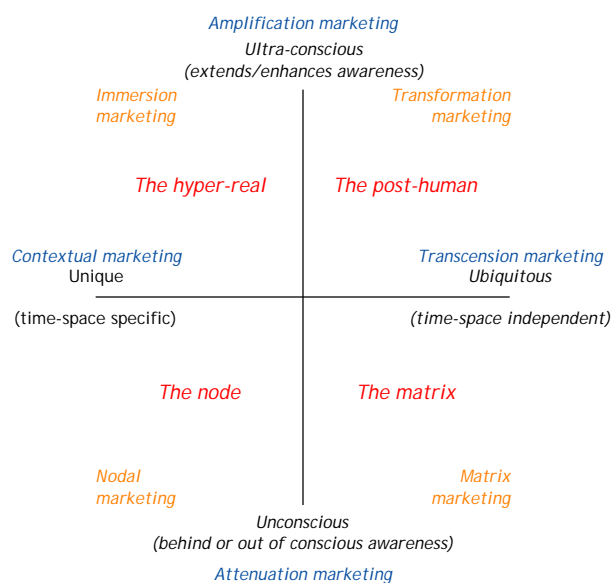
The u-space

If the four characteristics of u-commerce are simultaneously considered, then the u-space can be defined. In the graph below, the four different types of opportunities exist for firms that desire to do business within the u-space: the post-human, the hyper-real, the node, and the matrix.

Post-Human Opportunities

The post-human opportunities are those that involve processes that are ultra-conscious and unique for each individual. These are extraordinary experiences, such as adventuring, entertainment, and teleimmersion. Since they are time-space independent and extend or enhance our awareness of the world around it, firms that wish to do business within this space should seek business opportunities that enhance conscious interaction with the phenomenal world in specific situations.

Hyper-real Opportunities

The hyper-real opportunities are those that involve processes that are ultra-conscious and ubiquitous for individuals. This opportunity takes advantage of the characteristic that the network is always on and seeks to enhance human facilities. For example, advanced prosthetics that are connected to the network or genetic enhancements to individuals are hyper-real. These opportunities enhance conscious interaction with the phenomenal world acontextually – that is transcending specific time-space locations.

Node Opportunities

The node opportunities are those that involve processes that are unconscious and ubiquitous for individuals. Firms that seek to find opportunities in the node space seek to move tasks from conscious to unconscious automated consumption. For example, the use of automated toll booths and smart cards or price comparison bots that execute in the background. These free attention for individuals and are universal, acontextual processes designed to automatically perform tasks.

Matrix Opportunities

The matrix opportunities are those that involve processes that are unconscious and unique to each individual. Examples of firms seeking business opportunities within this space are a CRM that tries to understand the customer so well that offers easily capture attention or a wine-of-the month club that comes with the permission of the individual. These opportunities reduce the necessity of an individual or collective to consciously interact with phenomena in specific contexts.

Implications for MIS

For MIS, u-commerce means that users must be presented with simple interfaces and high functionality. Behind these interfaces must be integrated customer database and electronic communication links between systems. Finally, IT must seek to automate tasks to free attention for individuals.

Conclusions

Innovations in processing information are the bedrock of cultural, social, political, and economic change and u-commerce marks the final step in the evolution of commerce. For firms, this is part of the evolution in thinking about your relationship with your customer - from products to services and from services to information. So as commerce evolves to a new form, how will your firm prepare? Dr. Watson advises that you understand the u-space and define your niche in this new and emerging form of commerce.