News release

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**Contextual Awareness and Intelligence Drive Growth for Mobile and Information Technology Industries**

***Evolution of Contextual Intelligence Expected to Lead to***

***New Contextual Mobile Ecosystem***

**New York, 29 May 2014**‑‑Mobile is driving innovation that links a user’s contextual situation to the ability to act on that information, according to the latest Mobile Innovations Forecast report from PwC. How well a mobile device adapts its content and functionality to a user’s needs and preferences is a priority focus as mobile markets mature. As this trend continues, contextual awareness and intelligence is poised to become a major area of growth for mobile and information technology industries.

Raman Chitkara, Global Technology Leader, PwC, said:

“Mobile users want devices that act as ‘virtual assistants’ that support them through their daily lives. Mobile operators are acutely aware of the potential revenues these users can generate and brands know they need to be front and centre in the mobile mix in order to engage users. The evolution of contextual awareness will play a huge role in tying those audiences together. As development of this mobile ecosystem accelerates, there is a unique opportunity for leadership for industry players to capture the imagination with innovation and creativity.”

PwC's *Mobile Innovations Forecast (MIF) Phase II article four, The Elements of Contextual Intelligence,* demonstrates how contextual awareness and intelligence arises from three core domains of technology. The three capabilities enabling mobile devices to generate contextually relevant information and services are:

* **Communications intelligence:** A core capability for contextually aware and intelligent mobile services is natural language processing (NLP), which acts as a hybrid discipline combining the expertise of computer science, artificial intelligence (AI) and linguistics. NLP enables a fundamentally new experience between people, information and technology, as most users’ interactions with mobile devices are likely to be conversational rather than based on formal commands or menus.
* **Sensor intelligence:** As NLP provides the conversational interface to contextual experiences; applications turn those conversations into actions. Four primary contextual data inputs (location, identity, time and activity) provide the data necessary for contextual reasoning. Context focused software development kits (SDK) for mobile retail packages these four data inputs so non-specialist developers can generate contextually informed applications. SDKs can take data inputs and design mobile apps to enhance a physical retail experience.
* **Decision intelligence:** As a significant departure from traditional system development methodologies, decision intelligence—known also as ‘machine learning’—moves from the old ways where knowledge was distilled from humans and input as a series of logical structures that enabled a system to respond in predictable ways. The challenge of those formalised systems was that they could not adapt to ambiguity or exceptions. Human language, which is constantly evolving and riddled with idiosyncratic factors, cannot be consistently managed by formalised systems. By developing a framework with software that begins with pre-programmed examples of other successful translations, decision intelligence enables a system that can ‘learn’ to recognise significant translation patterns and evolve over time.

Chitkara added:

“The possibilities to engage consumers and businesses via mobile devices are endless—but we are only in the early stages of development. It is now clear that the pace of advancement is dependent on innovation in contextual intelligence.”

**Conclusion**

The forecast anticipates several trends developing from innovation surrounding contextual awareness and intelligence. NLP is expected to move beyond smart phones to include an array of other interactive situations. Marketers need to prepare for this influential model of customer engagement and management.

Contextual SDKs will act as a gateway to developers who will create industry-specific contextual applications for a wide range of sectors such as healthcare, education and automotive among others. Significant opportunities exist for tech companies to enhance their market position and fend off competition from new entrants.

Overall, these and other trends will lead to a robust contextual information market ecosystem that will drive new experiences and expectations for end users and companies alike.

This is the fourth article in the MIF Phase II series. A conclusion article featuring a preview of Phase III will follow in a few weeks. For an introduction to this series go to: <http://pwc.com/mobileinnovations>

**Notes to editors:**

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