



# ESSENTIALS OF Management Information Systems

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## Chapter 1 Information Systems in Global Business Today

### Case 1: UPS Global Operations with the DIAD IV

**Tags:** UPS global operations; handheld computers; wireless mobile platform; digital firm; integration of business; customer value generation.

**Summary:** How IT drives the UPS operation worldwide. Using smart people and smart technology, UPS delivers over 14 million packages daily to 200 countries and territories, requiring the talents of 70,000 drivers who are wirelessly connected to UPS main databases located in seventeen major data centers throughout the world. L= 3:15.

**URL:** <http://careertv.com/video.php?mediaid=5Kb0tr9e-mNWk3iIvp3GZQ>

### Case

United Parcel Service's global operations are driven by its information systems technology. What UPS can do is largely a function of its information technology investments.

Beginning as a local delivery service in 1907, UPS expanded on the West coast initially, reached New York in the 1930s, and went international in the 1970s. Today, UPS delivers over 14 million packages daily to 200 countries and territories, requiring the talents of 70,000 drivers who are wireless connected to UPS main databases located in seventeen major data centers throughout the world. A multi-year, multi-billion dollar investment in technology drove the growth of UPS over the last twenty five years beginning in 1990. This investment enabled the development of the DIAD, the Delivery Information Acquisition Device. DIAD is a key element in UPS's business technology platform.



Company spokesmen say that "UPS revolutionized the package delivery business in 1991 when it developed and deployed the first Delivery Information Acquisition Device, known as the DIAD. More than twenty years later, UPS continues its pioneering development efforts with the fourth generation of the DIAD - the DIAD IV.

To ensure maximum flexibility in field transmission capabilities, DIAD IV includes multiple wireless connectivity options. Each DIAD IV features a built-in GPRS and CDMA radio, an acoustical modem to facilitate dial-up access if necessary, and 802.11b wireless local area network connectivity to enable transmission in a UPS center. The DIAD IV also features a Bluetooth wireless personal area network and an infrared (IrDA) port to communicate with peripheral devices and customer PCs/printers.

DIAD IV introduces a revolutionary new feature - Global Positioning Satellite (GPS) - to the handheld terminal market. UPS plans to use this technology to provide drivers

with more detailed directions to pick-up and delivery points in order to improve customer service.

The monochrome screen on previous DIADS will be replaced with a color screen that accommodates more information which can be displayed in an easier-to-read, more attractive manner. The color screen also enables UPS to color-code messages transmitted to a driver's DIAD. Urgent customer pick-up messages, for example, can be color-coded to alert the driver.

In addition, the DIAD IV contains 128 megabytes of memory - 20 times the capacity of the DIAD III. UPS will use this expanded capacity to provide new and improved customer services. Like its predecessors, the DIAD IV's battery lasts an entire work day.

The DIAD IV sends delivery information to the UPS data repository as soon as the delivery information is entered. Drivers simply scan the package bar code, collect the receiver's signature electronically, type in the last name of the receiver and push a single key to complete the transaction and send the data. There is no need to activate a cell phone or return to the vehicle.

Part of what makes the DIAD such a powerful tool is the system - ODS (On-Demand Services) - that enables communication with the driver. Every UPS driver automatically logs into the ODS system first thing in the morning. This allows dispatchers and center management to access the driver via his/her DIAD throughout the day by sending generalized text messages. Virtually all drivers start their day with a list of predefined customer pickup locations for that day. Thanks to ODS, the addition of a one-time pickup can be added to a driver's work list on-the-fly, enabling UPS to take best advantage of the geographic location of its entire fleet for servicing pickup requests.


By using the DIAD, UPS eliminates the use of 59 million sheets of paper per year.

The DIAD IV is the most comprehensive tracking device in the delivery industry, combining data collection and transmission technologies, digital signature capture, extensive expandable memory and rugged construction to withstand extreme temperatures and hard falls.”

#### **Other Features**

<b>Operating System</b>	Windows CE .NET
<b>Processor</b>	Intel XScale, 400 MHz
<b>Weight</b>	2.6 lb.
<b>Size</b>	10” x 6.4” x 1.9”
<b>Display</b>	2.8” x 2.1” color
<b>Battery</b>	3.2AH, 7.2v, Li-on
<b>Keypad</b>	45 large, raised keys
<b>Audio</b>	Speaker, microphone

The UPS technology infrastructure enables UPS to offer its customers many services, such as package tracking, freight planning, and freight truck packing optimization, in addition to the basic shipment of packages.



## Case Study Questions

1. What are UPS “Smart Labels?” What role do they play in UPS operations?
2. Write out the steps a package takes from pick-up by a UPS driver to delivery including the role of DIAD, the UPS Data Center, and the UPS Package Center.
3. What role does wireless communication play in the UPS systems?
4. How has information technology transformed the package delivery business?
5. How does UPS's investment in IT help it achieve the strategic business objectives described in Chapter 1?

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