

WHITE PAPER

Ocado Guarantees Customer Satisfaction With Panasonic U1 Ultra Mobile PC

Sponsored by: Panasonic

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Executive Summary

Competing in the £130 billion UK grocery market is not easy, especially for recent entrants that must compete with huge entrenched players with billions of pounds in revenue.

Ocado is an online-based grocery retailer, and its story is one of how a business took on that challenge and won through innovative use of IT to deliver better customer service than rivals ten times its size.

Of paramount importance to its success was equipping its delivery driver workforce of close to 700 employees with a mobile computing solution to deliver a range of value-added services to customers — a concept Ocado calls 'intelligent delivery'. Ultimately, the company selected an innovative new solution from Panasonic, the handheld U1 ultra mobile PC. Ocado's journey in making this choice highlights many relevant insights for other businesses, including:

- ☒ **The path of device selection isn't always straight.** Ocado is extremely sophisticated when it comes to IT, evidenced by highly complex bespoke supply chain systems used to run its warehouses. In spite of this, its initial choice of a field PDA did not deliver an optimal solution. Learning from this initial experience was crucial in ultimately selecting the right solution, however.
- ☒ **Device reliability is just as important as device capabilities.** Mobile computing adds enhanced capabilities, but also places great demands on devices, requiring extremely rugged solutions.
- ☒ **IT agility can reduce the gap between larger competitors.** Businesses that embrace optimized IT solutions in the field can quickly close the gap with competitors by delivering superior customer service.

In this case study, IDC examines the challenges Ocado faced from a business perspective, the process it went through in selecting a solution, and the benefits it derived through partnering with Panasonic.

Ocado Company Overview

Launched in 2000, Ocado is a UK-based online grocery retailer. Aspiring to give its customers a true alternative to going to the supermarket each week, Ocado provides customers with an intuitive Web site to select and order groceries, combined with sophisticated and IT-optimized supply chain and delivery services.

Today, Ocado's services are available to over 16 million households across the UK, and the company has grown rapidly since its inception, with revenues of £338 million in 2008. The UK grocery market remains a huge opportunity for Ocado, with a total market size of £130 billion, of which only 4% is online so far.

Ocado's success to date has been remarkable given the market dynamics in UK groceries and the huge entrenched grocery competitors like Tesco (revenues of £50 billion), Sainsbury's (revenues of £22 billion), and ASDA (revenues of £15 billion).

Since Ocado sources its groceries mainly from another grocery retailer, Waitrose, quality of service stands out as its most important market differentiator, and this is evident in the company's unparalleled commitment to customer service, enabled by innovative use of IT.

IT Enablement At Ocado

At Ocado, IT is not a business support function — IT is the business (evidenced by the CEO also being the CTO). IT is integral to Ocado's success from the warehouses equipped with bespoke supply chain systems capable of managing and sorting over 20,500 grocery lines and organizing 100,000+ deliveries per week, to the point of delivery, where IT is used to ensure deliveries arrive at the right address, at the right time, with the right contents, guaranteeing customer satisfaction.

Critical to Ocado's core differentiator of customer service is the ability to offer customers more flexible and enhanced services than its competitors at the point of delivery. Because of this, Ocado required an adaptable PC solution for each of its 700 drivers. Core requirements for the solution included:

- ☒ **Rugged.** Ocado required a device that could function for up to 16 hours a day on the road and be able to withstand a range of weather conditions — from drizzle and rain in London, to sleet and snow in Edinburgh. Drivers would be constantly plugging and unplugging the device from the delivery truck while carrying groceries requiring an extremely durable and tough device. Most importantly, the device needed to be extremely reliable with low failure rates. Device failures meant inability to deliver groceries on time, unhappy customers, and damage to Ocado's most important differentiator — customer service.
- ☒ **Windows Platform.** The device needed to be based on a Windows platform so that it could integrate with Ocado's back end bespoke systems, which were all designed for Windows. Modifying these bespoke systems for interoperability was deemed both too disruptive to business and time consuming, making Ocado standardize devices on the Windows platform. This requirement had the ancillary benefit of simplifying the management of all PCs and devices ideally within one management tool.
- ☒ **Satellite navigation.** Drivers required a device with satellite navigation to enable delivery. Although many point solutions exist for navigation, Ocado wished to centralize all functions within one device. In addition to making a driver's life easier, this requirement also removed the safety hazards involved with a driver having to interact with multiple devices in the cab. Additionally, satellite navigation also needed to be coupled with a significantly powerful processor to enable complex route finding calculations.

- ☒ **Wireless data enablement.** Finally, the device needed to have wireless data enablement and in particular be able to send and receive update and status messages over HSPA. Through this capability, drivers could receive changes to delivery schedules and give customers greater flexibility in monitoring orders, allowing further differentiation on the quality of customer service Ocado offered versus its competitors.

Selecting the Right Mobile Computing Platform

Initially, Ocado selected a PDA solution running on Windows CE, but was forced to reconsider this choice after the following issues developed:

- ☒ **Device reliability.** The selected device had higher than expected failure rates, and even worse, slow repair waits. Repairs on a single device could take weeks or even months, requiring a large replacement inventory and added costs. In particular, Ocado realized its ideal solution would need a much more rugged screen, and power jacks that could withstand being constantly plugged in and unplugged as drivers went back and forth to vehicles.
- ☒ **Windows CE management silo.** Although the device ran on the Windows CE platform, allowing interoperability with back end systems, management required a different tool from standard PCs, creating another layer of management complexity.
- ☒ **Limited data enablement.** The device only had a limited degree of wireless data enablement, creating two problems. First, many of the value-added services that Ocado wished to enable through devices in the field had to be scaled back. Second, management and fault resolution for field employees was simply not possible — if a driver had a software issue it had to be resolved back at home base.

Ocado was faced with a problem. The original solution it was using cost more than anticipated, was prone to failure, added complexity, and didn't enable all of the value added capabilities the company wanted in the device. In addition, failure was coming at a high price — devices not functioning on the road meant missed deliveries, potentially defrosted food, and unhappy customers, a combined opportunity cost that IDC estimates would be worth £250 per hour of individual device failure.

Recognizing this, Ocado embarked on a six-month RFP process to find a better solution. In addition to the original requirements Ocado established three critical key performance indicators (KPIs) for the new device:

- ☒ Time to repair device
- ☒ Incidence of device temporarily failing in field (device can be repaired)
- ☒ Incidence of device breaking (device needs to be replaced)

Partnering With Panasonic to Deliver Customer Satisfaction

Early in the process, Ocado identified a real contender to meet its ambitious requirements, the Panasonic U1 Ultra Mobile Rugged Toughbook. Ocado was already familiar with Panasonic Toughbooks, having used them in its warehouses for several years.

Device Specification

The U1 is a handheld ultra mobile ruggedized PC. Unlike similar PDA-type devices, the U1 runs on an Intel Atom processor and a complete Windows operating system, giving users the complete features of a normal PC. Although slightly larger than PDA equivalents, this gives the U1 the advantage of packing a serious punch in terms of compute power in a small device — current versions run at 1.33 GHz for processing speed and come equipped with 1024 MB of SD RAM.

Importantly, the U1 can offer users device consolidation since it can be equipped with both GPS satellite navigation and mobile broadband.

FIGURE 1

Requirements Overview

Ocado Requirement	Panasonic U1 UMPC Solution
Ruggedness	Designed to meet military standards of ruggedness (MIL-STD-810G and MIL-STD-461F). IP 65 certified
All Day Usage (16 hr)	Hot-swappable twin batteries for 18hr usage
Portable And Cab Mounting	5.6" screen, with weight of 2.3 Lbs. Designed for vehicle mounting and handheld use
Windows OS	Standard with either Windows Vista Business or XP Professional SP2
Satellite Navigation	GPS receiver
Wireless Data	Gobi mobile broadband for EV-DO, HSPA

Source: IDC, 2009

Following a pilot phase, Ocado was greatly impressed with the U1. Core stand out features included:

- ☒ **Extreme ruggedization.** Ocado was hugely impressed by the degree of punishment the U1 could take. Even with a larger screen than other PDA solutions examined, the U1 stood out as a more reliable device with dramatically lower incidence of damage or breakage compared to other solutions.
- ☒ **Fast and consistent repair.** In the event of the U1 breaking down, Panasonic offered reliable and consistent repair times. Panasonic was able to guarantee a four-day turnaround for repair or device failure, allowing Ocado to greatly minimize the impact of downtime and decrease inventory of replacement units.
- ☒ **Full PC capabilities + Sat Nav + wireless data enabled.** In addition to outperforming other solutions on the three core KPIs, the U1 also addressed all of Ocado's other requirements. In particular, after adopting the U1 Ocado was able to consolidate its management tools and could even manage devices in the field if required. The U1 also offered mobile broadband, allowing Ocado to further improve value-added service at the point of delivery.

"We were able to drastically bring down the amount of devices failing and physically breaking. Repair turnaround went from months to four days"

- Dave Wood, IT Manager, Ocado

For Ocado, the Panasonic U1 UMPC delivered on all of the defined requirements and was adopted for its entire fleet of 700 drivers. Ocado believes the U1 not only offers a strong solution to its current demands, but also represents a great platform to build on and further enable value-added services to its customers at the point of delivery.

IDC Opinion

Over the period of this study, working with both Panasonic and Ocado, IDC independently recognized several insights relevant to all businesses. Devices like the Panasonic U1 UMPC enable important business capabilities of today and tomorrow.

Windows CE Versus Windows XP

The past two years has seen a rapid rise in compute power in handheld devices and UMPCs. This rise has also driven many businesses to rethink the OS used on handheld devices, which traditionally lacked the capabilities and extensibility of a full OS reflecting the former limitations of small device compute power. Even today, however, many devices still come equipped with scaled down OS' like Windows CE, in spite of the rapid changes in hardware capabilities — analogous to fighting today's battles with yesterday's tactics.

The Panasonic U1 is a good example of a number of devices starting to buck this trend by offering a full OS in a handheld device. In the case of the U1 using Windows XP over Windows CE, there are numerous benefits that contribute directly to cheaper integration and support costs. Other businesses should take this into account when comparing the two platforms:

- ☒ **Compatibility.** Leveraging a full OS grants much greater flexibility on the type of software that can be loaded and how that software can be customized versus a

scaled down OS like Windows CE. This easier compatibility means IT spends less time customizing and integrating software on the device and thus saves costs.

- ☒ **Management and support.** Switching to a mainstream OS in a PDA or UMPC also enables the simplification of device management and support. IT staff need only be trained to resolve problems on one type of platform, and only need to be trained on one software support tool set. In addition, software fault resolution is normally more flexible on a full OS versus a scaled down OS.
- ☒ **Extensibility.** Lastly, a full OS within a PDA or UMPC grants businesses the ability to develop new features and capabilities more quickly and with less effort than a traditional scaled down mobile OS or vertical OS — both of which typically have simpler development APIs, making it more difficult to develop the high-end features found in a full OS.

Device Consolidation

Finally, throughout the study, IDC identified device consolidation as a very large benefit to selecting a comprehensive, all-in-one device, such as the Panasonic U1.

The rise of mobile workers has been mirrored by a rise in the number of devices mobile employees typically carry. Ocado's experience showed how multiple devices could actually increase complexity and safety risks for a mobile employee. Of similar importance, IDC identified the added costs of procuring and supporting a number of devices versus using an all-in-one device. Although all-in-one devices will typically have a higher up front procurement cost than a combination of devices, the decision makes sense over the lifetime of the equipment because of much cheaper support costs. As basic examples, IDC provides the estimates below:

TABLE 2					
Device Cost Comparison Over Four-Year Lifespan					
Device	Procurement Cost	Service Cost	Support Cost	Retirement Cost	Total
Phone	£20.00	£960	£80	£5	
PDA/GPS	£200.00	£800	£1,500	£250	
Notebook/UMPC	£1,500.00	0	£3,000	£300	
Total					£8,615
All-in-one UMPC	£2,900.00	£480	£3,000	£500	£6,880.00

Source: IDC, 2010

Conclusion

The most sophisticated back-end IT systems can deliver only limited value if they cannot be reliably leveraged at the point of interaction with a businesses customer. In an increasingly service-based economy in both the UK and Western Europe, success for a business is largely decided on its ability to provide superior customer service from its competitors.

Ocado's success is a clear example of how a business can use IT strategically to win against significantly larger competitors by providing more intelligent customer support. A key aspect of how Ocado accomplishes this is its ability to provide customers with greater flexibility and service at the point of delivery. This advantage is quickly negated, however, if the IT device delivering this service is not up to the rigorous demands placed on field employees. Other businesses can learn the following from Ocado's experience:

- ☒ **KPIs on device failure rates and repair are hugely important requirements.** In device RFPs, significant attention is often placed on the use cases surrounding a device, but often the incidence of device failure or commitments from the vendor for repair time are at least initially overlooked. Both should be viewed as primary requirements for any field device — the best capabilities in the world for a UMPC or PDA mean little if the device is constantly failing.
- ☒ **The simpler the solution the better.** Businesses increasingly face the problem of device sprawl as they aim to grant as many capabilities to field employees as possible. For many field employees, it is not uncommon to have a phone, a specialized PDA, a PC, and a GPS device. The complexity that arises from an employee having to be trained on and use a range of different devices can quickly counteract the perceived improvements in business capabilities and productivity that these devices are supposed to be delivering. Businesses need to also put emphasis on simplicity and device consolidation when embarking on a new device RFP process.
- ☒ **Don't just select a device — select a platform.** Finally it is important for businesses to recognize that in many cases a given device might be a solution for today's problem, but may limit potential opportunities for tomorrow, especially if a device runs on a closed platform, as many PDAs do. Businesses need to place greater importance on selecting a device with a flexible platform that they can grow with, adding new and better capabilities over time.

Given these conclusions, Ocado's RFP journey and eventual partnership with Panasonic shows a solid approach to device RFP and adoption. The key takeaway for businesses should be that with the right device a business can empower its employees and deliver greater satisfaction to its customers.

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