

TC55 VERSUS CONSUMER SMARTPHONES

Total Cost of Ownership



BACKGROUND

Symbol TC55 Touch Computer addresses new enterprise market segments that extend beyond the needs of users in the traditional enterprise market segment, including the enterprise smartphone user segment. Competitive threats from smartphones are clearly evident, particularly since most users are well educated on the capabilities and benefits of the growing number of applications that claim to address some business needs. The total cost of ownership (TCO) remains a key differentiator and is often seen as abstract and difficult to measure or estimate. This white paper will help explain the TCO analysis between consumer products and enterprise solutions, specifically the TC55.



EXECUTIVE SUMMARY

The TC55 opens the door for a new enterprise market segment — users who need the form factor of a consumer smartphone, as well as the features and durability of an enterprise class device.

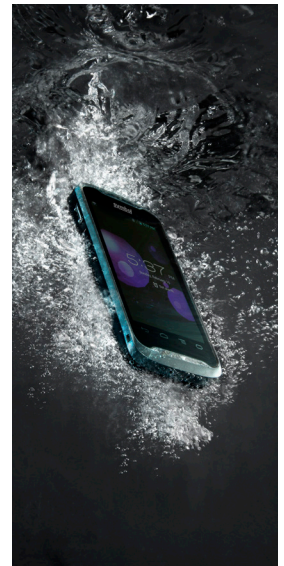
While a consumer-style smartphone may appear to have what it takes to do the job, in reality, it falls far short. Since consumer smartphones are not built for business, they do not meet enterprise-class criteria in many areas, from durability, security and manageability, nor do they offer enterprise class data capture features, such as business-class bar code scanning. The result is a higher failure rate, higher support costs and reduced worker productivity.

By contrast, the TC55 pocket-sized all touch computer has everything business users want and need — from features to looks. While it looks like part of today's consumer smartphone family, the similarities stop there. The TC55 is a true personal touch computer, built for business. While it offers the same smartphone ergonomics and navigation, it also offers the durability your customers require to achieve a lower total cost of ownership (TCO). The Android™ operating system enables the creation of the same graphic-based highly intuitive applications the workforce is using on their consumer smartphones, while Extensions (Mx) from Zebra — a set of operating system “add-ons” — turns the standard

consumer operating system (OS) into a real enterprise grade OS, with the security and manageability that enterprises require. In addition, advanced technologies including integrated bar code scanning, optimized 8 MP camera, and NFC — provide the advanced data capture required to maximize business process efficiency — the same features that have made Zebra a leader in enterprise-class mobility. And when it comes to voice, the TC55's advanced noise-cancelling technology, plus a speaker that provides four times the audio loudness of many of today's most popular consumer smartphones, ensures that workers and their callers hear every word on every call — even in noisy business environments.

Since smartphones are typically heavily subsidized by the carriers, who offer deep discounts on smartphones with multiple-year service contracts, device cost will be the major sales hurdle. In fact, TCO data from Gartner and VDC reveals that enterprises will spend between 27 percent and 50 percent more supporting consumer-grade smartphones than their rugged enterprise counterparts, including the TC55.

This paper will provide information you should review with your customers regarding acquisition expenses, as well as other key cost drivers as outlined in the analysis from industry leaders. In the following pages, you'll find the in-depth TCO comparison data required to help you position the TC55 to win the sale.



ADDRESSING CONSUMER-STYLE DEVICE CHALLENGES

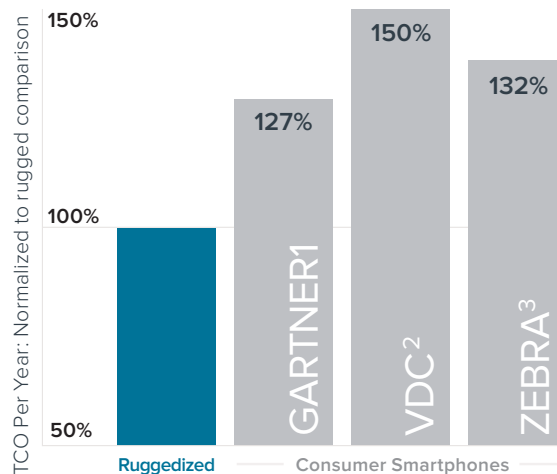
The first step is to better educate your customers on line-of-business application requirements and the impact of downstream investments when comparing the TC55 with competitive consumer solutions. Even though most decision makers understand that enterprise mobility is a three to five year strategic investment that is driven by total cost of ownership (TCO) and return on investment (ROI), the allure of lower initial expenditure must be addressed with the customer. Cost drivers that are derived from IT challenges, and higher multi-year TCO considerations need to be considered. While it is true that some consumer devices can meet the needs of some limited enterprise applications, the enterprise will still pay more over time for those consumer-style smartphones, making the TC55 enterprise-class Touch Computer the better buy.

Shown in Figure 1 is a summary of analyses from three separate entities — two leading independent analyst firms, VDC and Gartner, as well as Zebra own analysis based on the deployment of millions of mobile computers all around the world. As Figure 1 illustrates, all three analyses reveal the substantial savings the enterprise can expect by choosing an enterprise grade device such as the TC55 over a consumer-grade smartphone.

FIGURE 1: TCO summary

LOWER TCO THAN A SMARTPHONE

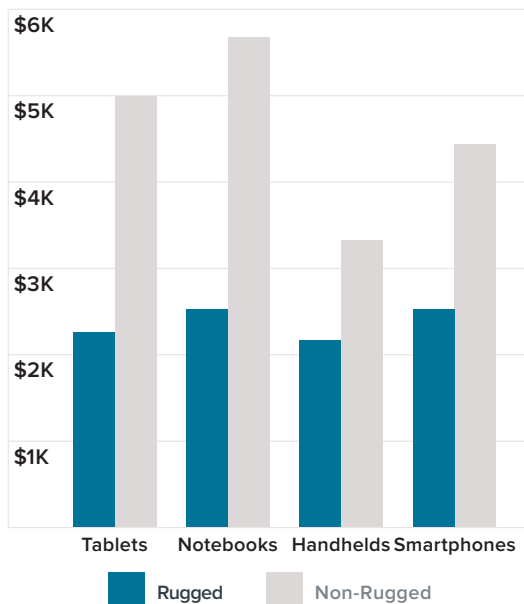
Consumer Smartphones increase TCO by up to 50% compared to Ruggedized



VDC TCO analysis summary

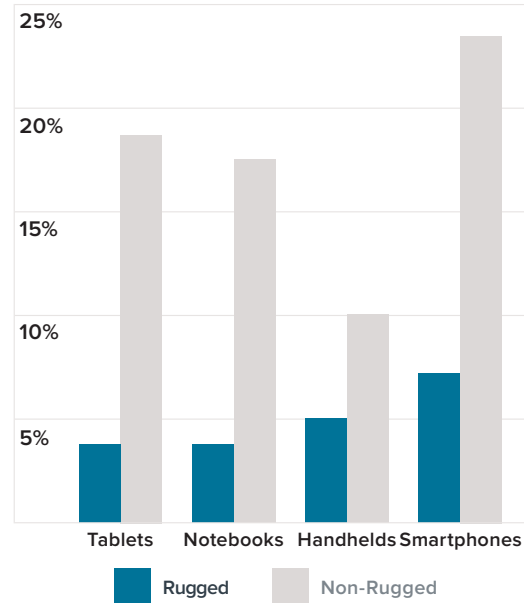
In March 2013, VDC published findings on the TCO of rugged devices vs. non-rugged devices. The conclusion? Non-rugged handheld devices were 100 percent more likely to fail, with a TCO that was 50 percent higher. For smartphones, the difference was even greater: the consumer smartphone is 200 percent more likely to fail than one of its rugged counterparts, translating into a TCO that was 90 percent higher. Consider the key takeaways illustrated in Figure 2 and 3.

FIGURE 2: Annual TCO for line of business applications



Rugged device TCO measurably lower in comparison to non-rugged TCO.

FIGURE 3: Failure rates by device type



Failure rates of mobile devices used for line of business applications increase substantially for non-rugged devices.

GARTNER TCO ANALYSIS SUMMARY

In 2012, Gartner analyzed common usage patterns for mobile devices in the enterprise environment. The patterns were identified as Platform support, Appliance support and Concierge support. The platform profile is considered here as most applicable and is defined as a company-selected device with multiple business applications and central IT support. One key conclusion was that a non rugged device (consumer smartphone) will have a 27 percent higher TCO compared to a rugged device over four years based on using a 500 unit deployment **See Figure 4.**

FIGURE 4: Gartner TCO comparison summary

| DEVICE/SUPPORT TYPE | SMARTPHONE | RUGEDIZED DEVICE |
|----------------------|-------------------|-------------------|
| Total direct costs | \$1,426.49 | \$1,037.46 |
| Total end user costs | \$487.40 | \$475.81 |
| TCO | \$1,913.89 | \$1,503.26 |

**27%
LESS**

Assumptions: Ruggedized Devices

- The devices have a four-year life cycle.
- A warranty uplift to match the longer life cycle of the device.
- All devices are cellular-enabled.
- Reduced voice due to the data-centric nature of tasks.
- The cost for a native wireless email solution, as well as the cost of a management and security software suite.
- Users depend more on such devices to accomplish their job, implying higher end-user operations/downtime costs.
- A mix of 30% data entry users and 70% structured task users.

Assumptions: Smartphones

- The devices are expensed with a two year life cycle.
- IT labor costs associated with the complexity of managing one or more business applications.
- The costs of managing a native wireless email solution, as well as the cost of handling security and management tools.
- Costs to train IT personnel and end users on at least one business application.
- A mix of 40% structured task users, 45% knowledge workers and 15% power users.

ZEBRA TCO ANALYSIS SUMMARY

In order to position the TC55 against consumer solutions, consider the comparison of two separate profiles that provide a range of assumptions and requirements in order to illustrate a potential TCO variance.

An iPhone 4S smartphone bundled with a sled for scanning to meet medium scanning requirements, and an extra battery to ensure high usage over a full shift. The company plans to maintain the iPhone for a full four years. In this scenario, the scanning sled provided equivalent functionality to the TC55 with integrated scanner.

A Samsung S4 Active smartphone with a protective case to provide some minimal drop protection. Assumptions

include light scanning that can be handled by the camera, plus replacement of the S4 Active after two years, due to expected damage and fallout. While the S4 Active's scanning capability is not equal to that of the TC55, it is thought to be adequate for the profile requirement.

In addition, the average discount pricing for the TC55 and non-contract pricing for the two consumer smartphones were used in this calculation, since bundled carrier services would be utilized in both scenarios.

FIGURE 5: Major contributors and percent breakdown relative to the TCO

| MAJOR CONTRIBUTOR PERCENT BREAKDOWN OF THE TCO | IPHONE 4S WITH SCAN SLED | TC55 | SAMSUNG WITH PROTECTIVE CASE — NO SCAN SLED |
|--|--------------------------------|------|---|
| Hardware acquisition costs | 50% | 75% | 50% |
| Service / support costs | 30% | 10% | 25% |
| Indirect costs | 20% | 15% | 25% |

Three major categories contribute to TCO: hardware acquisition, service/support and indirect costs. The indirect costs include productivity loss and IT support costs associated with a failure or incident. Please note that an internal TCO calculator has been created and was used to derive the discussed trends⁴. When breaking down the TCO, the percent contribution is important to note.

See Figure 5.

In this example, we consider the lifecycle period to be four years, which represents a normal expectation for enterprise mobile computers. The TC55 initial acquisition expense is equivalent to that of the iPhone 4S and 1.7 times greater than the Samsung S4 Active. Please note that the iPhone solution is functionally equivalent to the TC55, but the Samsung S4 solution offers fewer features than the TC55.

Figure 6 illustrates that, after only two years, the savings of the TC55 relative to the iPhone S4 profile is significant, with a TCO that is approximately 20 percent less and 36 percent over four years. Conversely, as Figure 7 illustrates, the Samsung S4 Active with a protective case has a breakeven TCO at the end

of the second year, but the TC55 will reach a 28 percent savings at the end of the four year lifespan.

The cost savings is primarily driven by a significantly lower failure rate (consistent with the aforementioned VDC and Gartner TCO studies), driving productivity up and IT support costs down.

One can argue the assumptions in the profiles may not meet an individual application, but the profile is intended to provide two data points that demonstrate a consistent TCO savings range using industry data, as well as profiles and assumptions that are in line with typical enterprise applications.

Figure 6: TC55 benefit relative to iPhone 4s with sled

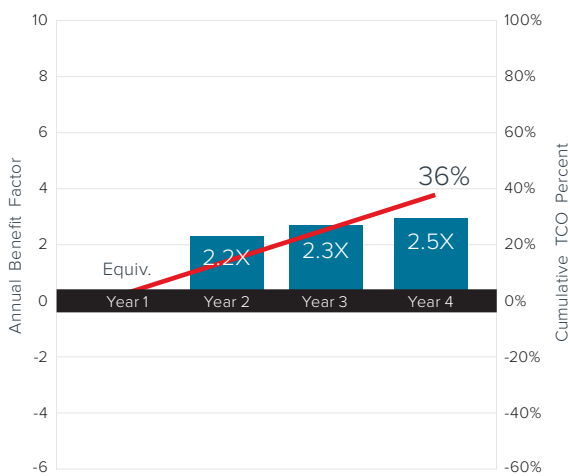
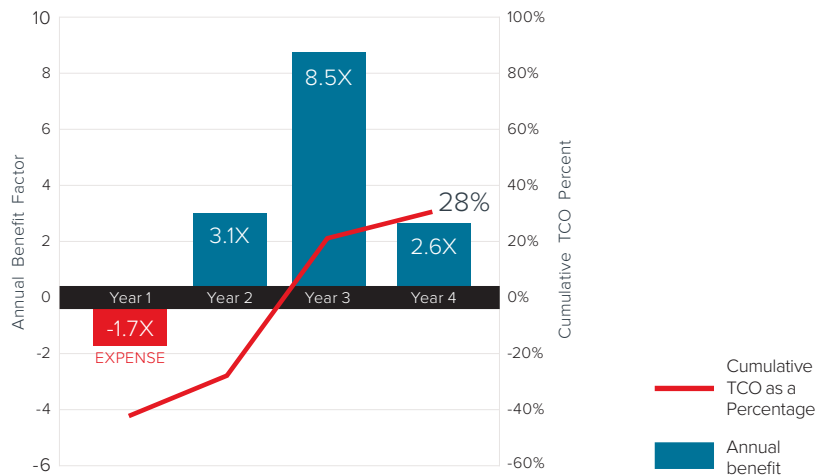


Figure 7: TC55 benefit relative to Samsung S4 Active



What is the Customer’s Cost of Doing Nothing?

When framing out the opportunity with the customer, it is also essential to understand from the customer’s perspective the cost of doing nothing (i.e. not buying from Zebra). If the cost of doing nothing is lower than the costs associated with purchasing the TC55, then obviously the customer will choose to do nothing. For some customers it may mean that multiple devices may have to be supported in the interim. The customer may have to go with a solution that does not have telephony features. Or perhaps, the customer may have to continue to support an outmoded Windows handheld platform with a compromised user experience due to a small display. Insight into the “cost of doing nothing” will be instrumental in positioning the TC55. Shown in **Table 1** are subject areas that should be explored with the customer.

Table 1: Subject areas to help customers understand the cost of doing nothing

| SUBJECT AREA | SPECIFIC POINTS TO EXPLORE |
|------------------------------|---|
| Multi-Piece Solutions | <ul style="list-style-type: none"> Scanning, imaging, supplemental battery, another device for telephony, ... Management of multiple suppliers and accessories |
| UI / UX Flexibility | <ul style="list-style-type: none"> Legacy solutions typically have smaller displays and excessive scrolling to view information leads to productivity loss Limited display area restricts opportunities for customizing home screens |
| Customer Intimacy | <ul style="list-style-type: none"> Zebra continually customizes platforms to meet enterprise requirements Consumer vendors will not be able to provide the same level of care /service / touch points that Zebra will provide Zebra may be asked to further extend/support the product lifecycle |

SUMMARY AND PERSPECTIVE

The notion of using consumer devices in an enterprise environment is challenging the economic feasibility of durable solutions. However, it can still be demonstrated that consumer solutions deliver a higher total cost of ownership (TCO) when used in an enterprise setting.

Even though the initial acquisition cost may be lower, further scrutiny demonstrates productivity loss, IT challenges and a higher TCO for consumer devices over a two to four year lifecycle, tipping the scales in favor of purchasing a rugged solution.

Consumer devices forego traditional enterprise core values. The enterprise market is a niche for consumer handset manufacturers, while it is a core competency for Zebra. We provide a superior solution, with investments in product lifecycle support, product platforms, extended service and maintenance, access to roadmaps and the largest ecosystem of software application partners in the enterprise space.

Although third-party sleds can normalize the initial equipment investment through incorporating scanning functionality, payment functionality and additional battery capacity, for the reasons outlined above, there are significant challenges that the customer must overcome.

Customers have taken note that some consumer device manufacturers have invested and tried to deliver devices that are “good enough” in the enterprise vertical, but have challenges. For example, in June of 2013, Samsung announced the Galaxy S4 Active that demonstrated an investment in quality to improve durable robustness⁵. Even with the improvement, it does not approach the durability and seal performance of the TC55, and is only sufficient for “summer proof” performance withstanding limited exposure to dust and water.

By educating the customer, it is believed that Zebra can overcome the current appeal of consumer devices. Utilizing the TC55, there is the opportunity for the customer to request customization of the protective casing — in addition to leveraging mainstream Android applications.

Personal versus associate use blurs productivity and corporate liability lines. Table 2 highlights two use cases for positioning the TC55.

Table 2: TC55 Use Case Advantages

| TRADITIONAL ENTERPRISE DIGITAL ASSISTANT (EDA) MARKET SEGMENT MEETING ONE OR MORE OF THE FOLLOWING CONDITIONS | NON-TRADITIONAL SMARTPHONE ENTERPRISE MARKET SEGMENT MEETING ONE OR MORE OF THE FOLLOWING CONDITIONS |
|---|--|
| Scanning is a necessity. | Light scanning is considered good enough. |
| Primary usage requires one device to many users necessitating the benefits of the managed enterprise lifecycle including challenges such as breakage/repair, replacement cycles, and technology migration roadmaps. | Primary usage requires one device to one user and the customer may consider relaxing the enterprise lifecycle requirements to achieve a lower acquisition investment but lifecycle challenges such as breakage/repair, replacement cycles, and technology migration roadmaps are still compelling. |
| Compatibility between the accessories and options will be compelling. The rugged charging cable will not be compelling (but still varied) since the multi-device charging station will be utilized for the majority of the use cases. | Service from the Start will be compelling as a means to reduce TCO. |
| Service from the Start will be compelling as a means to reduce TCO. | The rugged charging cable will be compelling by preventing wear on the USB connector. |
| Environmental durability versus consumer-grade robustness is a necessity. | Durable robustness is good enough. |
| Device management is required to limit or enhance functionality for different knowledge workers. | The ability to customize the user experience is considered compelling as a perk for users. |
| | Software upgrades need to be controlled and validated at the customer end rather than by the manufacturer of the device. |

CITATIONS

Troni, Frederica. “Total Cost of Ownership of Mobile Devices: 2012 Update.” March 20, 2012. Gartner
 Krebs, David. “Mobile Device TCO Models for Lone of Business Solutions”. Volume 11 Track 7: Enterprise Mobility Mobile Device TCO. March 2013. VDC research.
 Zebra. “Zebra TCO Calculator”. Average result for common applications in field sales and service. Q3 2013.
 As a trusted advisor, Zebra can complete a detailed assessment on behalf of customer engagements.
www.phonearena.com/news/Samsung-Galaxy-S4-Active-meets-its-match-in-a-swimming-pool_id44523
www.phonearena.com/news/Waterproof-Galaxy-S4-Active-warranty-wont-cover-liquid-damage-AT-T-employee-complains_id45895
www.phonearena.com/news/Its-official-Samsung-and-AT-T-will-exchange-your-waterlogged-Samsung-Galaxy-S4-Active_id46137
 Samsung claims IP67 compliance (submersion in water up to 1 meter for 30 minutes) stating that the USB rubber cover must be checked to ensure it is properly closed and recommends the user to reseal the battery cover and then press on the center of the cover to outgas any air that may be trapped between the cover and inner electronics. Reportedly, Samsung is not honoring the warranty if the phone is damaged from underwater use. Shortly after the release of the phone, the Samsung messaging “Summer Proof” took root.

