Making the Business Case for Vocollect

How to Show Return on Investment

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A Vocollect White Paper

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Synopsis

This paper is designed to give you a tool to help you impress your potentially risk-aversive leadership by speaking their ROI language, through using a calculation formula to present the performance and financial payback from a variety of voice-enabled applications. You will find it easy to understand and use…and you will feel confident in your ability to sell your effective business case for implementing a Vocollect solution in your operation.

Speaking to CIOs

What is voice technology?

The phrases "show return on investment", "make a business case", and "get the CIO's buy-in" can strike fear in the hearts of many an otherwise competent and confident DC Manager. Ask you to pump up the team, to identify how well specific associates are performing, or to state your DC's current safety record, and you are well in your element. But ask you to convince your CIO that a purchase of voice technology will be cost-effective and achieve payback in less than one year, and you are, well…shall we say, feeling a bit wary.

You're already under unrelenting pressure to drive operational performance – to constantly find new ways to reduce labor costs, improve productivity, and increase order accuracy. When you get in front of senior managers to ask for a considerable financial investment, your credibility is on the line, and you need to feel confident that you can understand and speak their language.

We understand your hesitation. But we also know that you can rise to the occasion, once you have a chart to help you navigate these unfamiliar waters. And that's all they are – unfamiliar waters. The simple reality is that you understand your DC operational needs better than anyone, and if anyone can make the business case, it's *you.*

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Voice and ROI

Over the past two decades, voice-enabled work has been established as a strong alternative to labor-intensive technologies like paper-based or RF scanner-based systems, and pick-to-light (PTL). It has been widely documented that voice enables efficiencies that result in measurable operational gains.

Assignments for selection, replenishment, put-away and inventory moves generated by the warehouse management system (WMS) are transmitted via a wireless network to a mobile computing device, which translates the assignment data into verbal commands heard through the headset that direct the person to an aisle or section of the distribution center (DC)/warehouse and a specific slot or pick location. The associate then confirms the location by speaking a numeric identifier into their speech recognition headset. The associate then hears, for example, “pick three.” They then picks three of that item and responds back, “three.” Then the next location is provided. When assignments are complete, the associate requests their next assignment from the available work queue.

Voice-enabled work accelerates performance improvement, whether the associate is case-picking, piece-picking, replenishing, putting product away, back-stocking or line-loading. It also supports the ability to pick and pass, or to pick multiple orders simultaneously. DC/warehouse management and supervisors maintain control of the process from their computers so they can re-sequence assignments, obtain labor reports, and respond to shortages when – or even before – they happen, rather than later in the process.

The return on investment (ROI) from these projects is often substantial. And fortunately, the impact of voice technology is not difficult to calculate.

In labor-intensive, high-volume, high-SKU operations like manufacturing and distribution, voice demonstrates a direct payback to the bottom line – typically, in less than one year.

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Building the Business Case

To begin building a business case for voice-enabling a DC, you first must have a clear understanding of your operation's current performance metrics and pain points. What percentage of your outbound shipments arrive on time and accurately? How much overtime does the team put in every month? Are associate compensation claims too high?

A recent study from DC Velocity Magazine highlighted research findings on the top 10 metrics companies currently use to measure their DC performance in 160 companies. The most common measurement indicators include on-time shipments, inventory count accuracy, and order-picking accuracy.

Once you have assessed your overall DC performance, the next step is to identify those areas where improvement is needed – ones which will most affect your bottom line. If your DC could benefit from accuracy rates as high as 99.995%, productivity increases from 10% to 25%, increased throughput capacity, and/or reduced training time, then voice-enabled work could be a considerable benefit to your organization.

Impact on Performance and Quality

Improved Accuracy

Typically, voice systems enforce order accuracy through the use of random check digits. The check digits are placed directly by the product and must be read when an associate is at the appropriate location. It won't allow the associate to continue unless they read the appropriate digits, thus ensuring nearly 100% accuracy at all times. There is no dependence on a device display, or on a paper label or pick list, which can be misread. Correctly filled orders means fewer returns for the distribution center. When a product doesn't need to be returned and reshipped, DC transportation costs drop. Labor is also reduced, because fewer products need to be received, put away, stored and shipped for a second time.

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Impact on Performance and Quality (continued)

Increased Productivity

Voice increases productivity by making associates more efficient. There is no need to scan a bar code or key in data on a handheld or mobile computing device.

By eliminating the need to read a display screen, a paper pick list, or a purchase order, associates obtain their next assignment en route to the next location, thereby reducing the wasted time associated with travel. If you have engineered standards in place, productivity gains can be estimated by eliminating the unnecessary steps associated with paper and RF systems. Typically, productivity gains will range from 10% to 25 %.

Voice increases productivity by making associates more efficient.

When compared to pick-to-light, voice offers similar productivity rates, but with much higher throughput potential. Because voice is product-independent, multiple associates can be in the same area at once, giving your management the flexibility to commit additional resources to an area with excessive demand. In addition, associates can complete multiple assignments simultaneously, thus greatly reducing their travel distance. than adequate performance.

Other Workforce Benefits

Language barriers, turnover, seasonal fluctuations in part-time employees, and the cost of training are a few labor-related issues that often compromise both productivity and accuracy. However, voice keeps labor costs down by making it easy for your associates to be trained.

Within 15 minutes, voice technology learns individual associates' personal accents and unique speech characteristics. The associate is then ready to be directed through each step of the job assignment. Because it's easy to use, training is literally cut from weeks to hours.

Voice-dedicated devices are small enough to fit in a pocket, giving associates freedom of mobility. Also, because it is much simpler to speak into the microphone on the headset than to enter data manually, they achieve higher productivity. By tracking personal productivity and accuracy, it gives associates a sense of pride and reduces your turnover and saves the cost of training new associates.

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Calculating a Simple ROI

The overall value of any technology purchase is largely judged by the ability to demonstrate strong ROI. The challenge is in being able to identify where it occurs and knowing how to calculate it. Once you clearly understand your overall supply chain needs, the value of voice can be identified by calculating the average savings as a percentage of project cost.

The following example determines savings due to improvements in accuracy and productivity for a DC which ships 20,000 cases per day over an eight-hour period. It assumes a cost-per-error of $12[1] and 260 working days per year.

For example purposes only, case picking is shown in the following section. However, the same calculation can be made for other areas of the DC, such as piece-picking, replenishment, and put-away.

Questions About Your Case Pick Area

	Settings	Enter Value
1. What method do you currently use to pick orders?	Scanning	Scanning
2. How many cases do you pick per day?	20,000 Cases per day	
3. How many errors do you have per 1,000?	5.0 Errors per thousand	
4. How many total associates do you have in the case pick area?	18 Associates	
5. What is the average burdened wage rate for associates?	$18.00 Burdened wage per associate	

Accuracy Savings

Step One: Determine what errors are costing your operation annually.

- 20,000 cases ÷ 1,000 x 5 errors (per 1,000) x 260 days per year x $12 per error = $312K

Step Two: Determine what errors will cost you if voice is implemented and the error rate is reduced to 1 error per 1,000. (<1 error per 1,000 is common with voice)

- 20,000 cases ÷ 1,000 x 1 errors (per 1,000) x 260 days per year x $12K

[1] To calculate the cost of an error, review the sequence of events in the distribution process associated with correcting and finding errors. Additional handling, returns, audit processes, transportation costs, out-of-stocks at the store, poor customer service and additional clerical time are examples of areas in your supply chain which will incur additional costs due to poor accuracy. You will need to identify the specific areas and tasks in your supply chain affected by poor accuracy to calculate the cost of errors to your organization.

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Calculating a Simple ROI (continued)

Step Three: Subtract the cost in Step Two from Step One to calculate the savings.

Accuracy	Percentage	Errors	Cost
Without Voice	99.5%	26,000	$312,000
Expected with Voice	99.99%	5,200	$62,400
Savings		20,800	$249,600

Productivity Savings

Step Four: Determine how much you would save if your associates became 20% more productive.

- 20,000 cases ÷ 8 hours per day ÷ 18 associates (FTE [full time equivalent}) = 139 cases per hour per associate
- A 20% labor cost using the above 167 cases per hour from the labor cost using 139 cases per hour to calculate savings due to productivity improvements

Step Five: Divide the total investment price by the sum of the savings from Step Three ($250K) and Step Four ($112K) and multiply by 12 to calculate the payback in months.

- If the total investment price is less than the first year of savigs, the payback will be under one year. Typically voice systems pay for themselves within the first nine to 12 months.

Productivity	Cases/Hour	FTE	Cost
Without Voice	139	18	$673,920
Expected with Voice	167	15	$561,600
Savings		3	$112,320

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Calculating a Simple ROI (continued)

Other Potential Savings

In addition, your finance team will be examining the value and payback of this capital expenditure like any other type of company purchase that has tax implications. The laws for calculating tax benefits will vary from organization to organization and country to country, and only your finance professional can make this type of calculation for you. Tax benefits could range anywhere from 15% to 40%, depending on the nature of your organization's tax structure. Where calculations show little tax improvement or even a loss due to this purchase, you will need to state your case emphasizing the other key benefits (e.g., ROI, documented case studies showing a track record of success in other organizations). However, where your finance professional can identify a major tax savings, this can be the added benefit that spells the difference between "go" and "no go." In any event, sooner or later, your finance team will weigh in on this purchase.

Certain other benefits relating to increased ROI, such as that netted from reduced training time, improved customer satisfaction, less loss-time accidents, technology flexibility, and reduced turnover, can be more difficult to quantify. But they are definitely worth being factored into the mix wherever possible.

Conclusion

Organizations often view an investment in voice-enabled work as one element in a broad management strategy to improve order accuracy, increase productivity, and reduce labor costs (including training time) in the supply chain. In labor-intensive, high-volume, high-SKU operations like manufacturing and distribution, voice demonstrates a direct payback to the bottom line – typically, in less than one year. With accuracy rates of up to 99.995% and greater and productivity increases of over 25%, voice-enabled work has been demonstrated to pay for itself relatively quickly under most circumstances.

Voice-enabled work has proliferated into markets beyond food distribution, such as retail, third-party logistics providers, healthcare, and consumer packaged goods. Many organizations in these sectors are using voice technology to reach higher accuracy and productivity levels than ever before while, at the same time, reducing operating expenses and maintaining a coveted competitive advantage.

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