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Reflections on DIUC21

Turning Manual Excel Data Collection into a Maintainable Data Feed with DivePort-IN

Top Healthcare IT Challenges in the Aftermath of COVID-19

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October 2021

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Table of Contents

CONTRIBUTOR

Trevor Branch,
Marketing Writer

Oliver Gampe,
Senior Consultant

Rose Weinberger,
Senior Marketing Manager

John Sucich,
Contributing Writer

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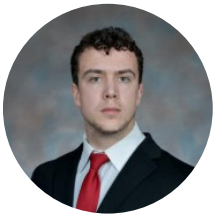
Reflections on DIUC21

Trevor Branch

Marketing Writer

LinkedIn



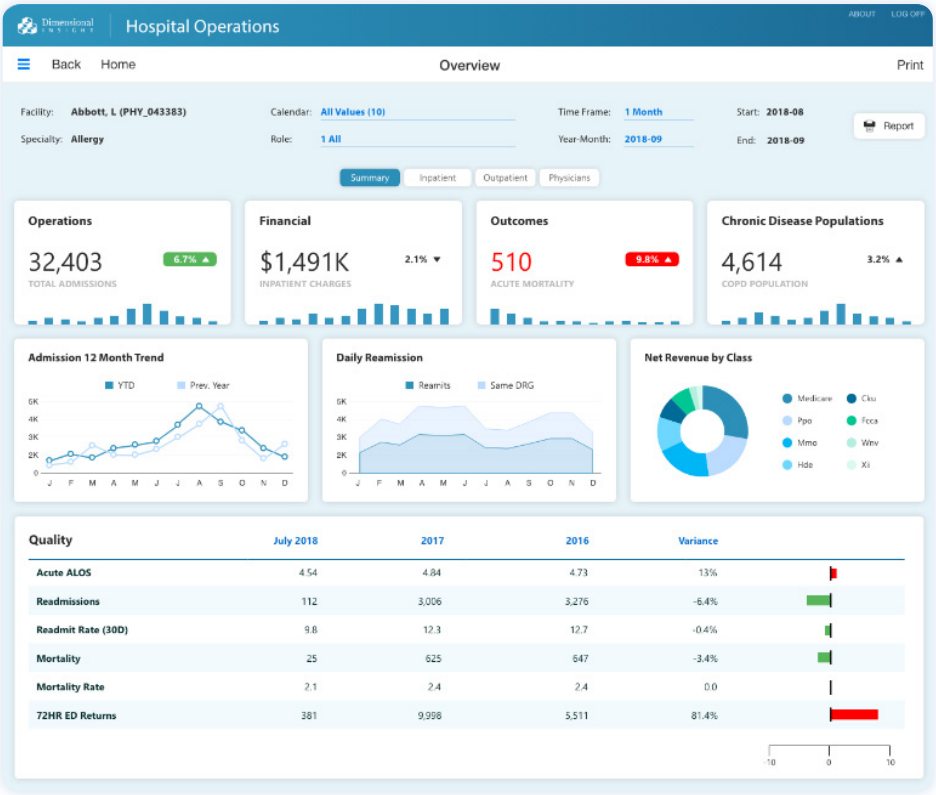
Despite the many obstacles presented by the recent pandemic, this year's Dimensional Insight Users Conference (DIUC) was another success.

Held entirely remotely due to COVID-19, DIUC21 featured an array of content including upcoming projects, customer case studies, technology highlights, and a keynote from none other than our own co-founder and CEO, Fred Powers. Recognizing that businesses will never go back to "the way things were," this year's theme was all about charting a new course and learning how to navigate uncertain waters as we move forward from the pandemic.

New and innovative technology

As with past years, one of the highlights for our customers is always learning what new projects Dimensional Insight is working on and how to better make the most of their current technology. Recognizing that our clients' return on investment depends on efficient adoption within their organization, Dimensional Insight paid particular attention to developing features that promoted ease of access and enhanced the user experience of our customers. This entailed a substantial expansion of our stamp library and the addition of many customization options of our Springboard reporting system. Additionally, Dimensional Insight recently introduced an overhauled version of the Dimensional Insight User Experience (DIUX) Toolkit, allowing users to create easy-to-use and visually stunning dashboards.

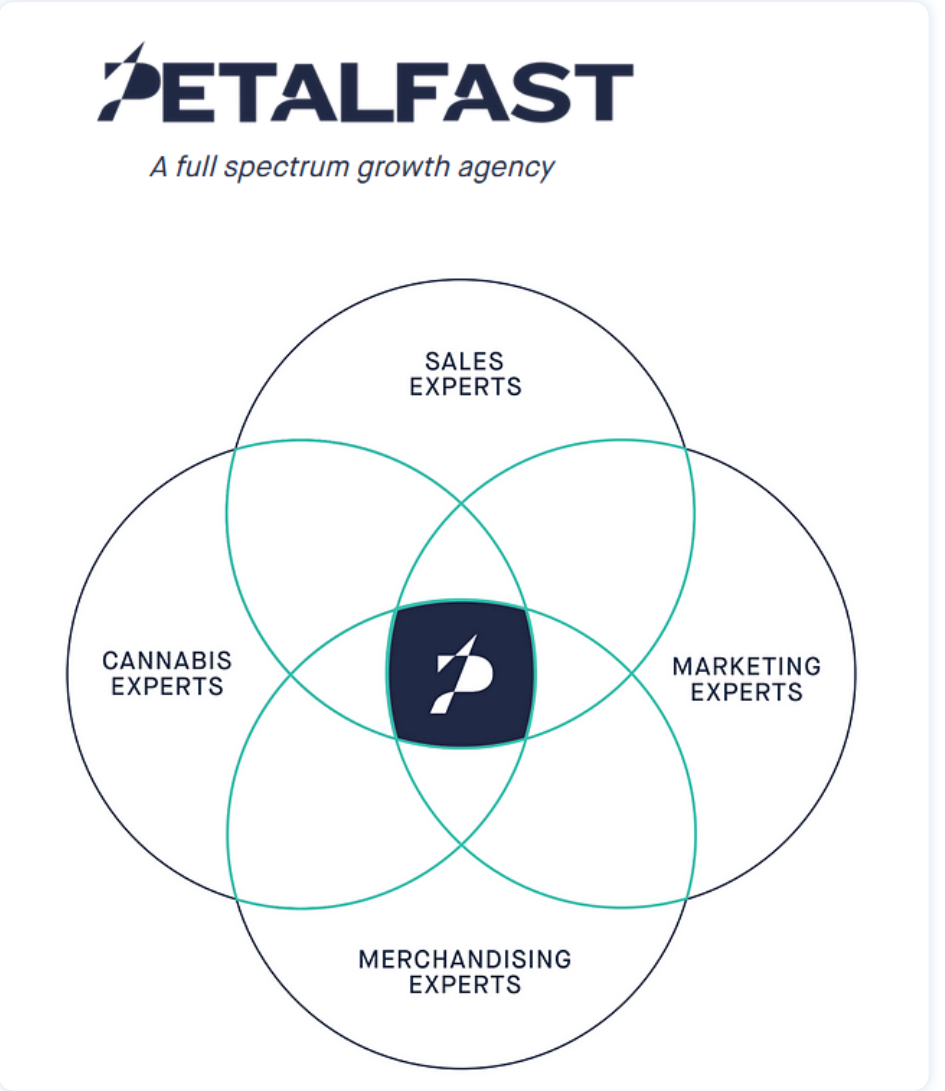
Increasing adoption also means that users must have access to the data they need, where and when they want it. To enable easier access for our customers, Dimensional Insight has made the Diver Gateway available on Windows, iPad, and iPhone, with an android-friendly application in beta testing. This means no need for multiple clients for different functionality, universal dashboard access between devices, and no more lost productivity due to bad network connections.



Customer success stories

Everyone at Dimensional Insight—from our technology developers, to our support staff, to our consultants, to our executive team—is solely focused on driving results for the companies we work with. That's why this year's conference featured stories from four of our customers, each finding a new and exciting way to use our technology in making the most of their data.

- Banville Wine Merchants, a wine wholesaler and distributor, is using the Diver Platform to educate their sales team and provide them with access to the data necessary to enable fact-based decision-making.
- UPMC Western Maryland, a hospital and healthcare system, is using DivePort's input technology to automate a previously manual process of combining census data with physician rounding data. The resulting information is then used for visualization in stamps, matrix portlets, and other types of dashboards.
- Posten Norge AS, Norway's postal service, has also started using Dimensional Insight's stamps and matrix technology to provide their sales and financial departments with the data visualization necessary to guide smarter business decisions.
- One of this year's most exciting case studies is Petalfast, Dimensional Insight's first cannabis distribution customer. By applying its experience with Diver Platform in the wine and spirits industry, Petalfast is able gain insights on consumer metrics in the quickly emerging cannabis industry.

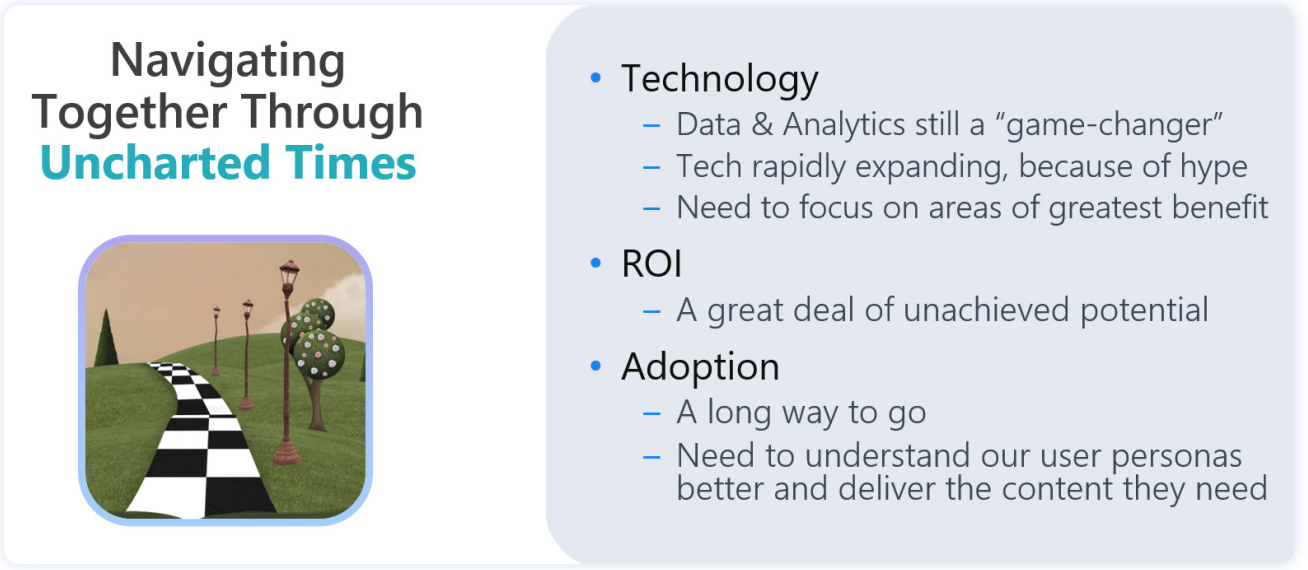


Charting a new course

Fred's inspirational keynote brought some insight as to what Dimensional Insight's next steps are moving forward from the pandemic. As we adjust to the new normal, we collectively have to ask ourselves, "where are we headed?" To know our path forward, we have to understand our current position and the position we want to get to—and forge a map for getting us there. For Dimensional Insight, this path consists of three key criteria:

- Increasing our client's return on investment
- Developing and advancing powerful technology
- Implementing more adoption throughout our client's organizations

The onset of the pandemic saw no shortage of brand new and captivating technologies, but the priorities of our clients haven't changed. While others are focused on selling what's hot and what's new, Dimensional Insight is still focused on building something that makes a difference for our customers. Every company has constraints (many of which were exacerbated by the pandemic), and that's why Dimensional Insight is committed to helping organizations continue to make the most of their resources and maximize their return on investment.



Looking to the future and DIUC22

As noted earlier, DIUC, and Dimensional Insight as a whole, wouldn't be possible without the loyalty and support of our customers. Moving forward, next year's DIUC will be hosted Sep 15-16 in our nation's capital, Washington DC. Featuring more exciting technological innovations and customer success stories, we hope you will be able to attend and learn about how Dimensional Insight can help your company make the most of its data. See you there!

Turning Manual Excel Data Collection into a Maintainable Data Feed with DivePort-IN

Oliver Gampe

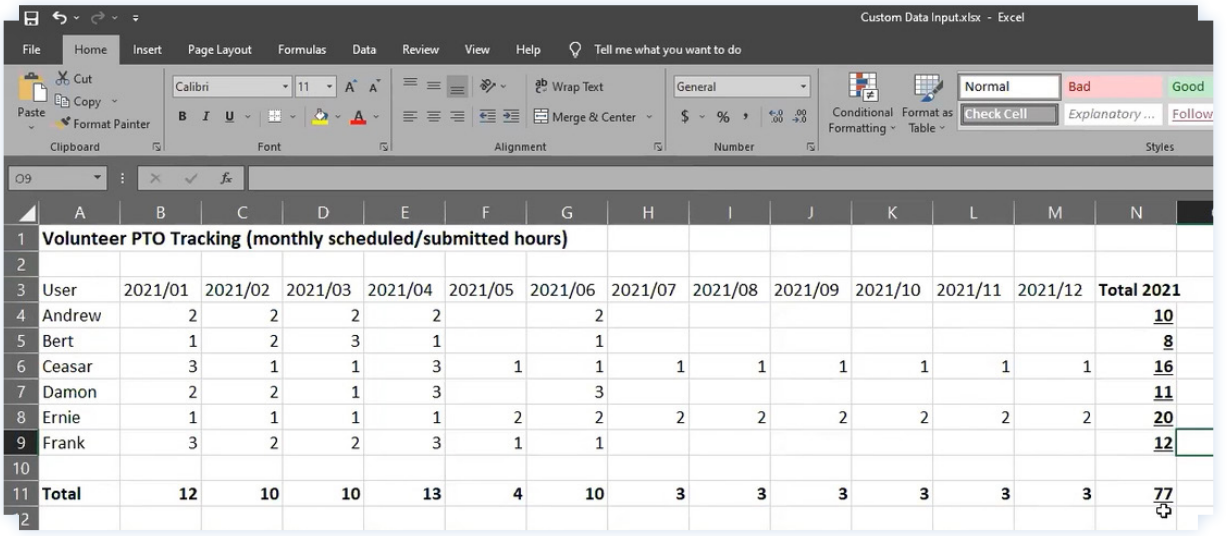
Senior Consultant

LinkedIn

Imagine collecting data for a metric, and the information comes to you randomly via multiple sources. Some people call you with information. Other times, you get the information from an email. You even get information from walk-ins to your office.

To record the data in a central location, you open a Microsoft® Office Excel® spreadsheet to record each piece of new information. Sometimes, tracking information in a spreadsheet is fine.

Spreadsheets allow you to create data structures, and you can add totals. Here is an example of a table in Excel.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	**Volunteer PTO Tracking (monthly scheduled/submitted hours)**													
2														
3	User	2021/01	2021/02	2021/03	2021/04	2021/05	2021/06	2021/07	2021/08	2021/09	2021/10	2021/11	2021/12	**Total 2021**
4	Andrew	2	2	2	2		2							10
5	Bert	1	2	3	1		1							8
6	Ceasar	3	1	1	3	1	1	1	1	1	1	1	1	16
7	Damon	2	2	1	3		3							11
8	Ernie	1	1	1	1	2	2	2	2	2	2	2	2	20
9	Frank	3	2	2	3	1	1							12
10														
11	**Total**	**12**	**10**	**10**	**13**	**4**	**10**	**3**	**3**	**3**	**3**	**3**	**3**	77
12														

Figure 1. We will turn this simple table into a DivePort \| IN application.

Let's get started

This table tracks paid time off (PTO). The table includes a list of "Users" going down the left-most column. The header shows "Months" going across the top of the spreadsheet. For every month, there is a number entered for PTO.

As we noted earlier, the spreadsheet is usually a fine method for the process when you do something like this. But there may come a day where somebody says, "Hey, we heard you're tracking that metric. And we're working on this particular report. And we would like to include this metric in a certain report. So can you please make it accessible to me in a certain format and by a certain time? And please make sure it's always updated!"

That's usually the point where Excel doesn't look so promising anymore.

What can you do? You can create a maintainable data feed using DivePort-IN! You can take this Excel table and turn it into a DivePort-IN application in some straightforward steps. With the resulting DivePort-IN application, it will be much easier to share the data in other reports and the rest of your organization. Let's walk through the steps to make that change.

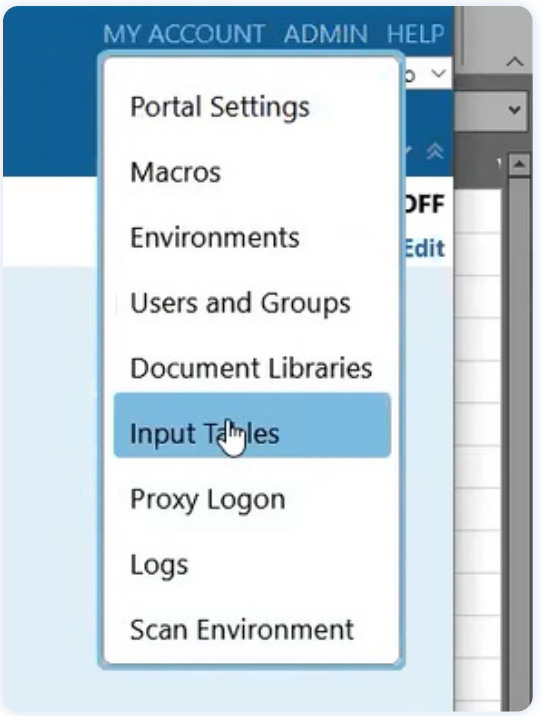


Figure 2. Input Table settings can be found under the ADMIN menu in the upper righthand corner of the DivePort screen.

Step one

The first step is to identify which things we need to track. In this example, we have three things: Users, Months, and the PTO hours.

To start, go into DivePort and the "ADMIN" menu to select "Input Tables."

This settings box is where DivePort-IN gets its start. In this example, there are currently no tables on the server.

Please note that we have prepared a handful of files for use in this article. [1]. If you follow the instructions, you will need to download these files to complete the process of creating the DivePort-IN application.

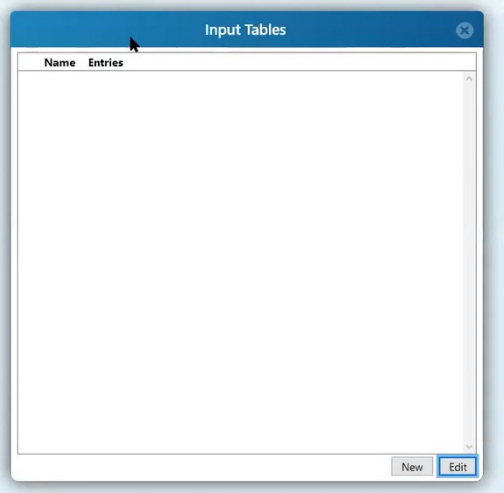


Figure 3. In this example, we are starting with no Input Tables on the server.

Step two

Now let's create a new table. It is essential to name the new table correctly. Otherwise, the downloaded files won't work. In this example, the new table is going to be called "DP-IN Demo."

This figure shows there's a little checkbox that is by default activated. DivePort creates automatic columns that track when a record is added and last modified when the checkbox is active. Because this information can be beneficial, we recommend leaving that checkbox active. Click "OK."

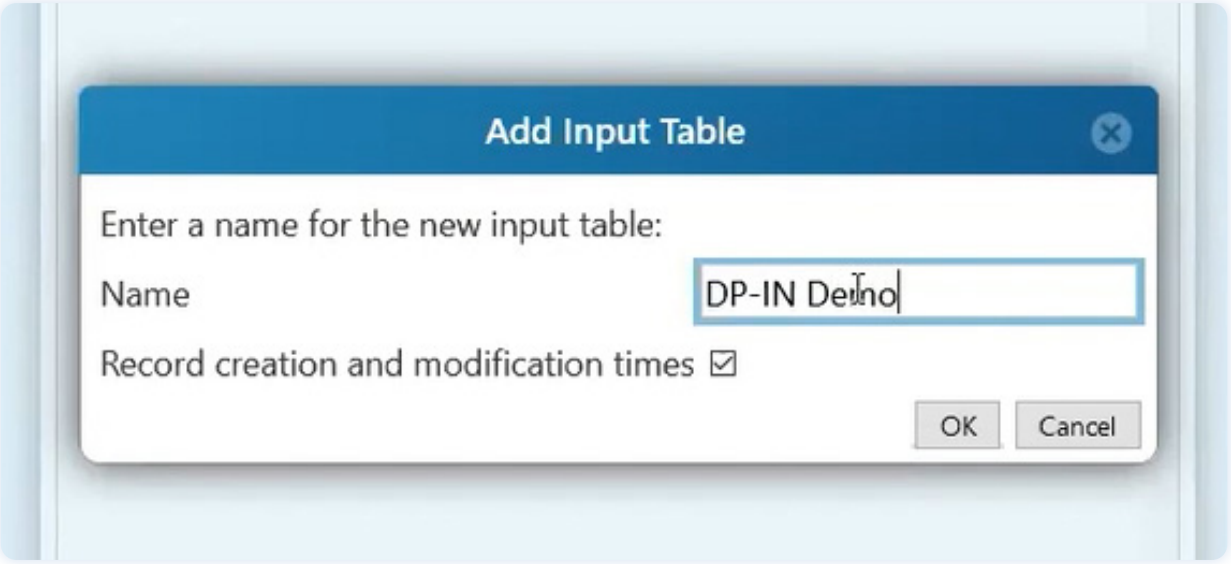


Figure 4. We recommend keeping "Record creation and modification times" checked.

Step three

Now we have the first Input Table. Let's look at the settings for this table. Click on the down arrow to the left of the table name to open a drop-down menu and select "Settings."

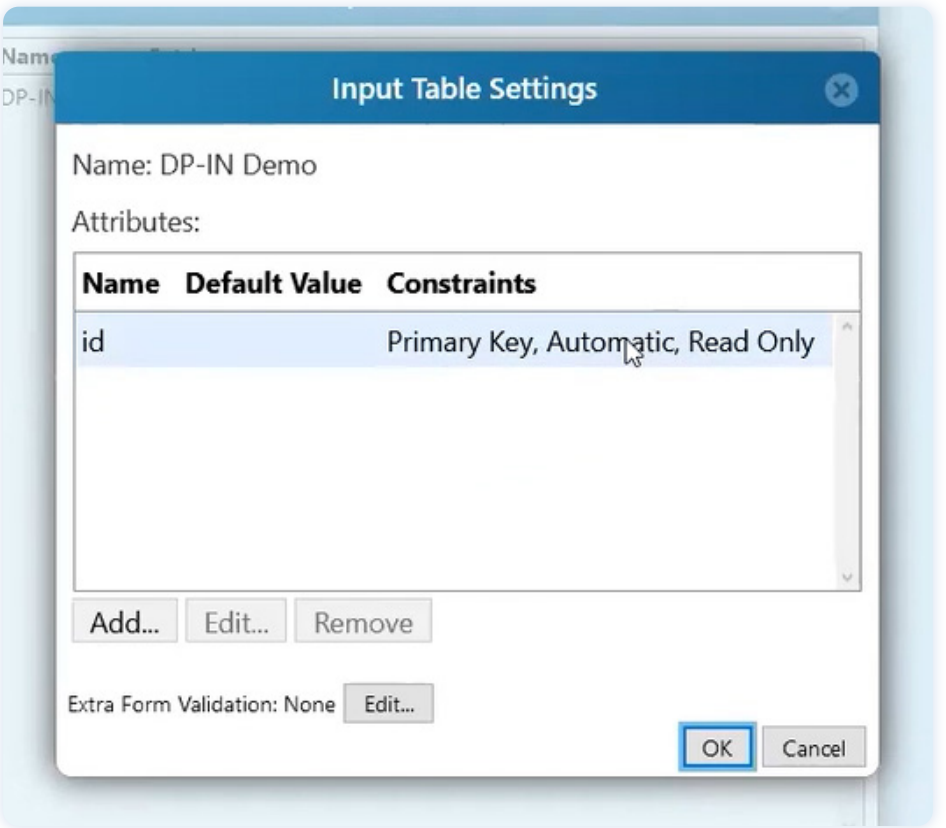


Figure 5. The initial view of the Input Table Settings dialogue box.

We can see there's one ID column set as the "Primary Key." DivePort creates it automatically. For a small application like this, the automatically created Primary Key is what we want. We don't need anything else.

If you work with a more extensive application with multiple tables interacting with each other, you'd want to create an ID with a more descriptive name. But for now, this is fine. Let us now add a "User" column. Click "Add..." and the "Add Attribute" dialogue box opens.

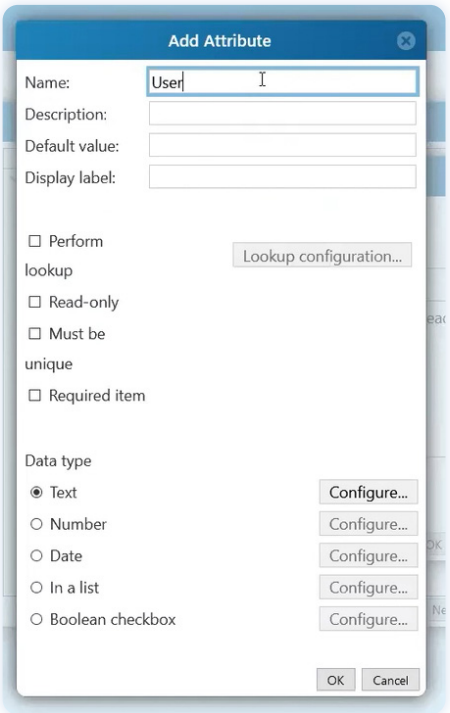


Figure 6. The Add Attribute dialogue box.

The first thought would be to categorize the "Data type" as "Text." A username is going to be text. However, in DivePort, "Text" really means it can be any text. Allowing for any text entry is too broad of a category. One best practice for accepting data for use in a table is to narrowly restrict the entries so there are no problematic entries.

For this Dive|IN application, we have the "Data type" option called "In a list." The is the option we are using in this example. There are several ways to supply this list. You can add fixed values manually, have another table in your DivePort-IN that provides those values, or use "View." We are using the third method called "View," so we select a file from the ones that we've already prepared and you have downloaded. The file is a small Tunnel called "show-users.tnl."

The only thing this Tunnel does is dynamically create a list of currently valid users on the system.

So, we're indicating to pick the column "User," and we hit "OK." And that's it.

We use the same process to create the "Month", and the PTO column will just be a number.

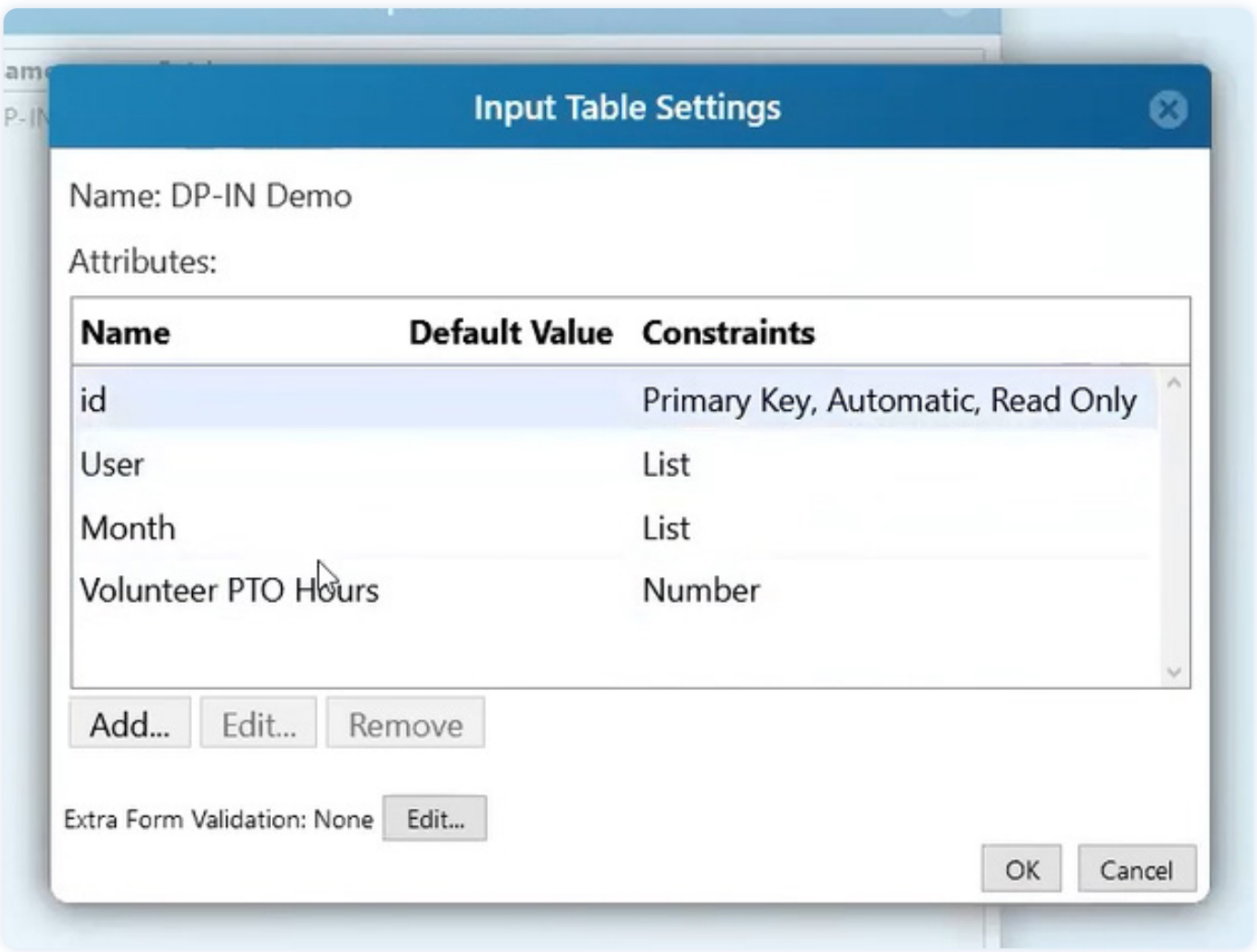


Figure 7. All 4 columns have been created.

Step four

We are going to "OK" this to close the dialogue box. Then we can go to a currently empty DivePort page. We add a "Table Editor Portlet." The "Table Editor Portlet" is very nice if you want to interact with some simple tables on your backend. What it does is it takes your table, and by default, it will show all the individual columns that are in the table. For this example, we don't want to see the ID, so let's take it out (by double-clicking it). The table is also showing those automatically created audit columns. We're going to remove these too.

Please notice the "Edit and Save" mode options at the bottom of this dialogue box. There are three options for "Table Editor Portlets." Let's use the middle one: "Cell Edit—Table Save." Depending on which of these options you pick, your portlet can behave very differently. And for some applications, one version may be better than another. So we suggest that you try out the other ones to see what works best for you.

So at this point, click on "Apply." And voila, we've got this table now. Next, we could start manually entering data in the DivePort-IN application table that we have just created. We would do that by clicking on the "Add Row" button.

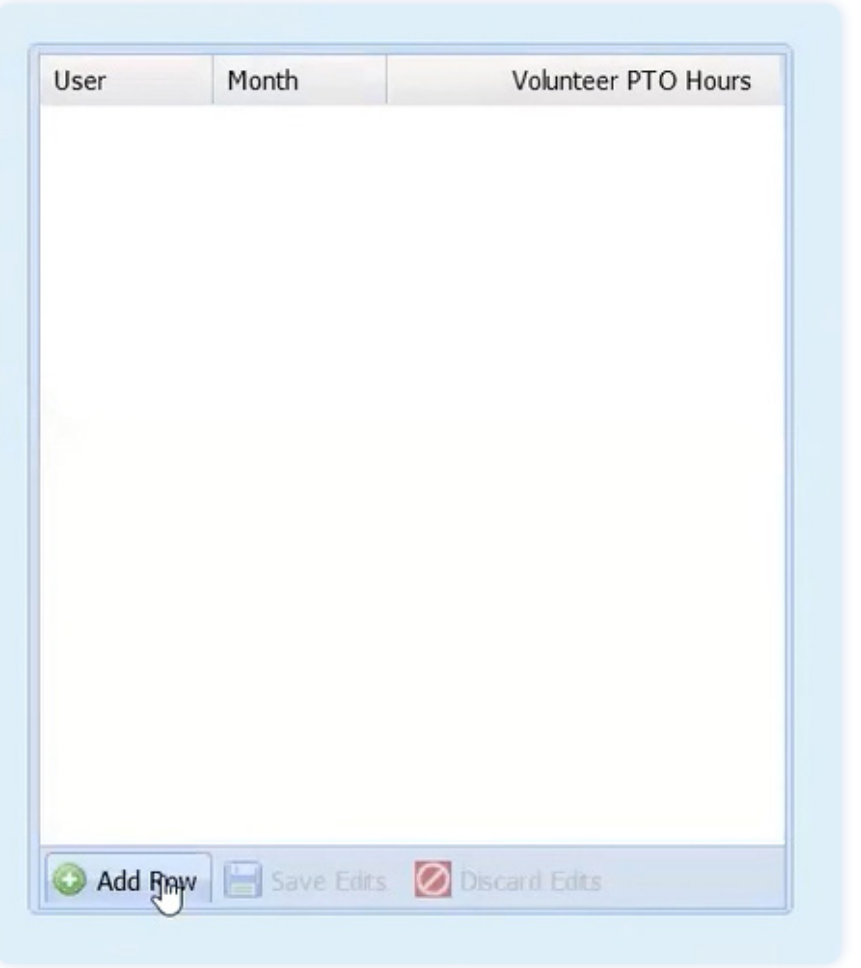


Figure 8. Here is the newly created table without any entries.

We can see that the person entering data can only select one of the valid "Users" and "Months" that have pre-populated the picklist. There is also a field for "Volunteer PTO Hours." But we don't want to enter any of this data manually. We have all the current data in an Excel spreadsheet. So let's cancel out of this dialogue box.

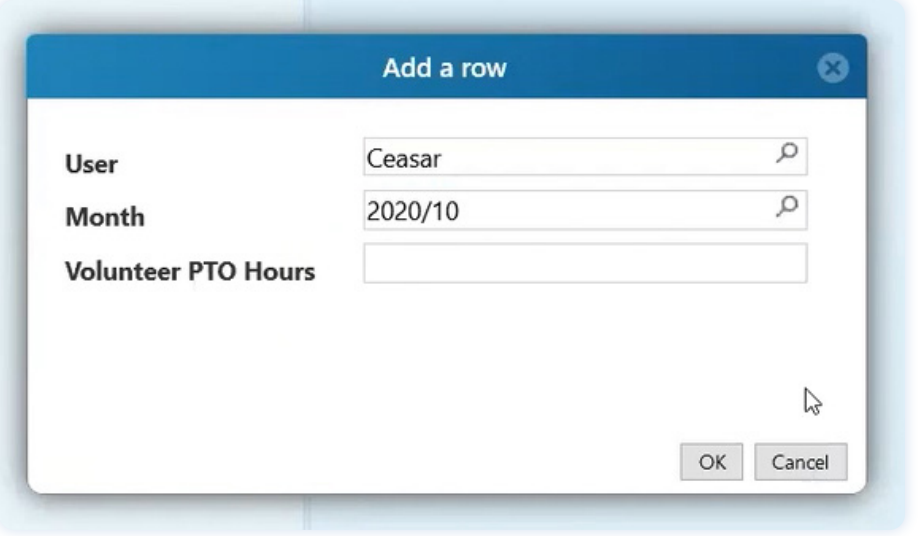


Figure 9. Once the "Add..." button is clicked, the user can enter all 3 fields for this table.

Step five

Now let's import the data from our Excel spreadsheet into this DivePort-IN application table. First, open the spreadsheet and copy only the data area. Then we're going to move over to Workbench into the prepared project. The one thing that sets this project apart from other projects you've worked with is its specific aliases.

This alias goes to a folder on the backend that stores these DivePort tables. We use the alias to pick up the data currently in that table and write data to that table if we want to update it. Those tables are usually in your "Solution" folder in "Web Data." The entire Target Path is: "C:\DI\Solution\webdata\diveport\tables\

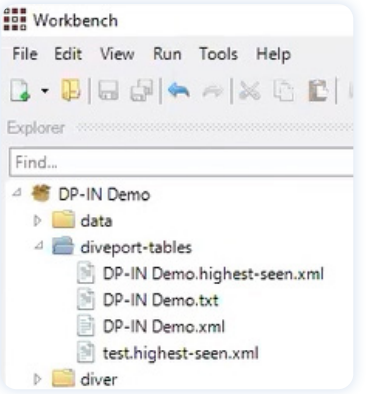


Figure 10. Aliases.

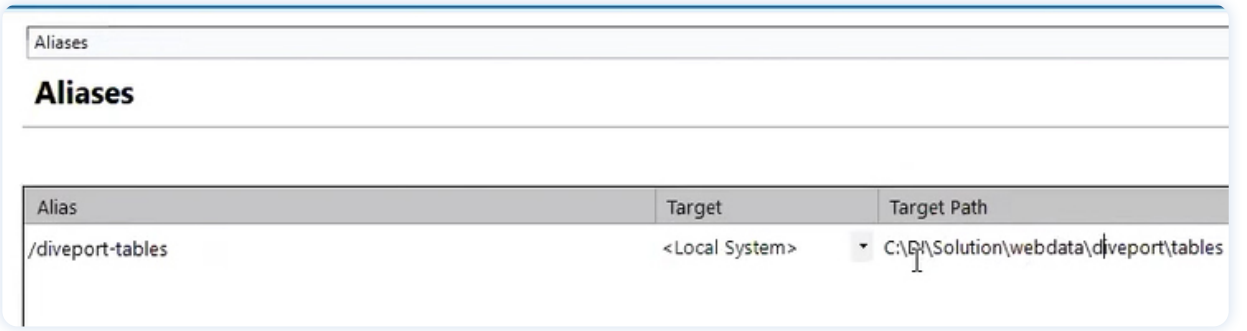


Figure 11. This is where the Target Path is entered.

Step six

For the data import in Workbench, start with an empty file, paste what we just copied from Excel, and click "Save." To save time, we did prepare a small script for this import called "import_table.int." It is part of the download package mentioned at the beginning of this article. Here is that script.

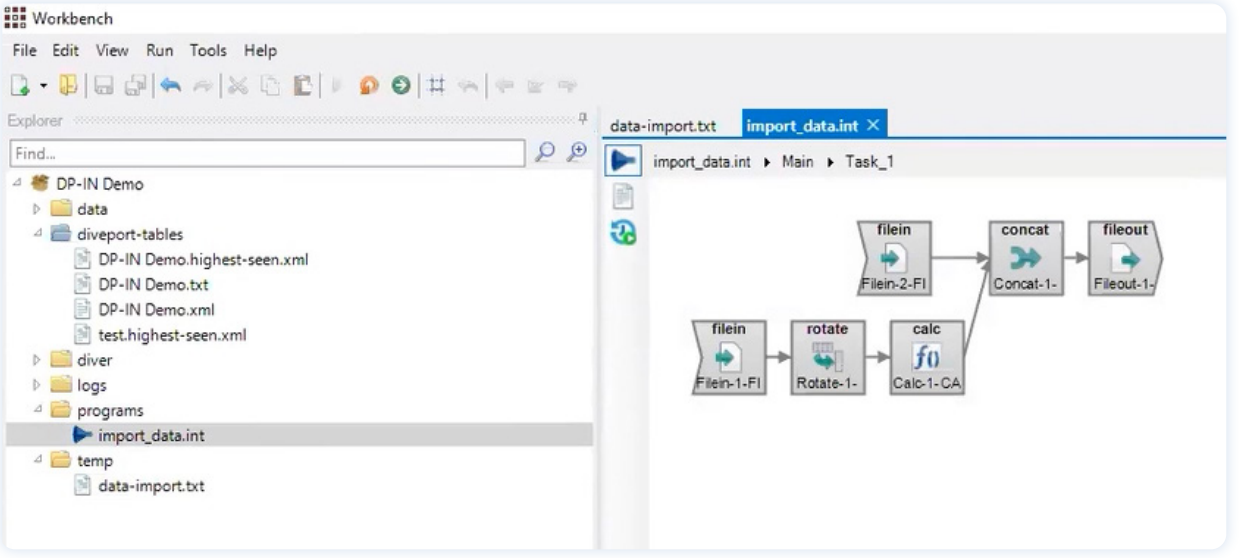


Figure 12. Import data script.

There are three crucial things to note about the script. First, we will not have the months as individual columns because of how we store data in our table. It's something we could do, but it's not an elegant solution. So let's rotate the data to get one row for every month for every user. After that, we can add the ID field because every record in that table needs a unique ID. To create these unique IDs, we're using a persistent calculation that adds "1" to the value of the previous ID for each new row.

Step seven

The next step is a "concat." We're concatenating the imported data—User, Month, Volunteer PTO Hours, ID—with what's currently the empty DivePort table on the server.

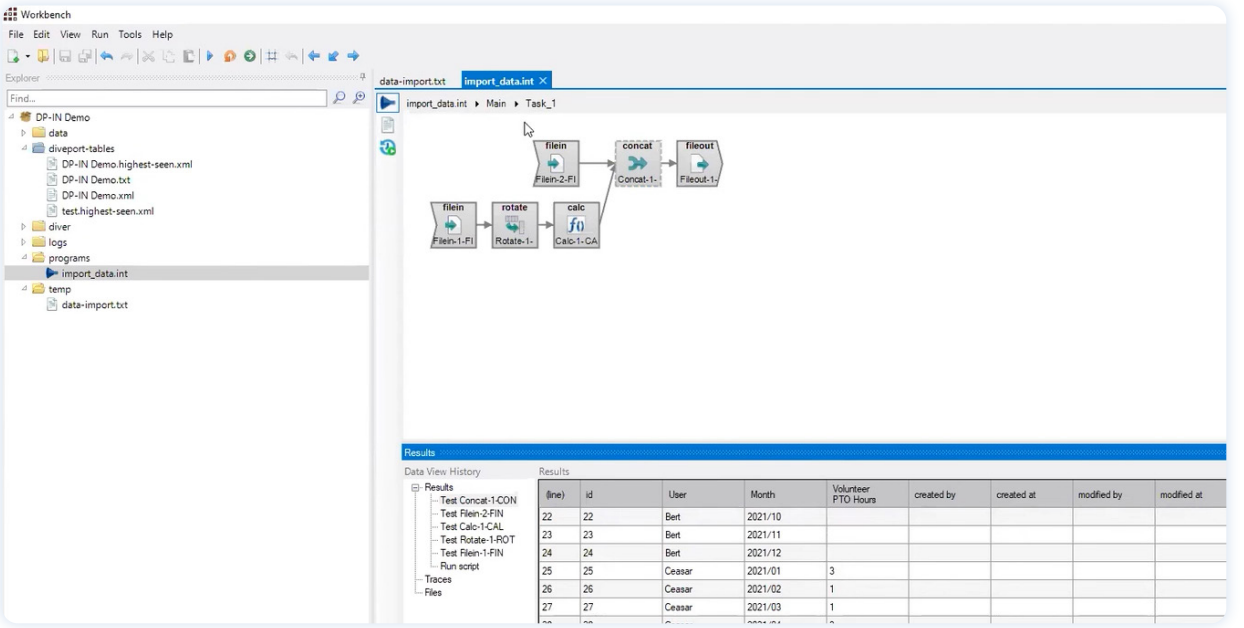


Figure 13. Concatenating the imported list with the original table creates empty columns so that nothing will break moving forward.

And the reason we're doing that is that if we concatenate the two and the original table is the first in the input, it ensures that in the future, we have all the right columns in the correct order to write that back into that table. So, if we test what we have done so far, we can see we have those automatically created columns. The automatically created columns are empty, but we have them. And if we write this to the table file, it won't break any scripts because if one row has fewer columns than another. We run the "import_data" script and see there are now 72 records. Switching back to the DivePort and executing a page refresh shows that we now have all that data in the DivePort table.

Step eight

The next step is to create a Diver Marker that goes to the PTO data and adds it up for you. Here is that marker.

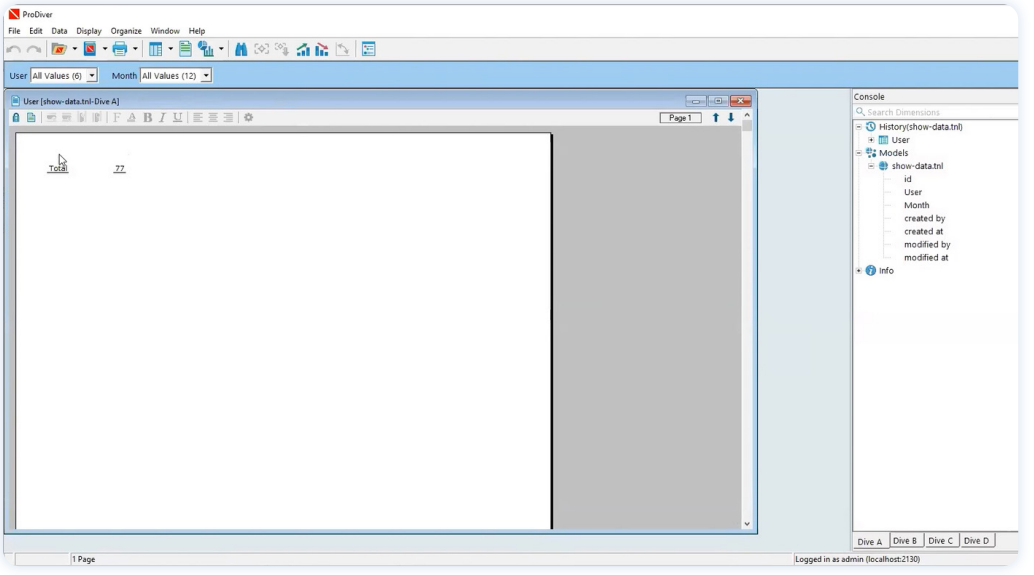


Figure 14. Report Marker for showing the total PTO hours.

It is a report marker. We deleted everything except for the totals row, which is the one thing we want to see. It does have the two QuickViews for User and Month to see what we want to sum up. Back on the DivePort page, we add two portlets: a QuickView portlet and a Marker portlet with the report from figure 14. Next, we link the table to the QuickViews by adding the QuickView values in the filter section:

Figure 15. Using QuickView values to filter the table-editor.

Now, we have the completed DivePort-IN table that can accept manual entries from any browser window.

The advantage over Excel is that the table is on a Diver server, so other people can access it, use it, and bring it into their applications. Also, it takes little effort to create an automatic script that pre-populates the data for you with a list of all the users every month. Such a script eliminates the need for manual record entry.

This article was a brief demo of how you can transfer data in Excel into a DivePort-IN application. However, you can do even more with DivePort-IN. And you can learn about it on our online Help. □

Watch this presentation in the recording of the Dimensional Insight Knowledge Forum on May 20, 2021.

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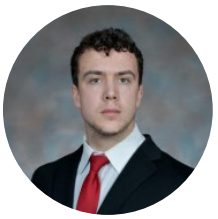
Top Healthcare IT Challenges in the Aftermath of COVID-19

Trevor Branch

Marketing Writer
LinkedIn



The COVID-19 pandemic devastated the US healthcare system by both introducing novel and catastrophic challenges and by exacerbating many pre-existing issues within the country. Countless organizations including hospitals, private practices, and even insurance companies have been forced to finally acknowledge and address the major weaknesses in the current delivery of healthcare. This presents us with an opportunity to implement meaningful changes to the industry as we work to recover from the pandemic and strengthen our resiliency against future crises.

Optimizing data analytics for patient-centered care

Advanced data analytics tools have played a key role in the battle against COVID-19, but its use has implications that go far beyond the pandemic. In the modern world, data is critical to operations across all industries and healthcare is no exception. Many organizations are investing in innovative data solutions to reduce costs, increase patient access, and deliver higher-quality care.

Through apps that utilize FHIR (Fast Healthcare Interoperability Resources), consumers will have more access to data and enable better communication of critical patient data. By developing longitudinal patient records, healthcare professional can make better predictions about which patients are at higher risk of disease and provide early interventions. Additionally, physicians can better evaluate the underlying influences of certain medical conditions.

Many physicians are now also taking advantage of the benefits provided by remote monitoring devices like the AltumView's smart activity sensors, which transmit vital patient metrics to healthcare providers. Tools like these allow providers to evaluate long-term health trends and respond to emergencies as they happen.

Advancing artificial intelligence

The US healthcare system is a massive industry, and as a result, produces a massive amount of data. However, this data is largely useless without adequate algorithmic capabilities to translate it into meaningful insights. This obstacle was highlighted during the pandemic, when AI was implemented to help fight the virus on all fronts from outbreak detection to contact tracing to even developing a vaccine. As we move forward from the outbreak, healthcare providers need newer and more advanced artificial intelligence tools that can continue to properly address growing data sets and produce actionable results.

AI has become a key player in the field of diagnostic imaging, where huge amounts of complicated data sets and images can be analyzed and compared to other studies to identify patterns and possible abnormalities. This enables radiologists, cardiologists, and other physicians to make important decisions in prioritizing critical cases and evaluating the correct treatment plans.

The ability to detect and asses a wide variety of clinical conditions in a timely manner can mean the difference between life or death for a patient.

AI also has a promising future in sequencing molecular structures for developing new medicines and assessing potential genetic diseases. For example, the company Deep Genomics uses a proprietary AI to develop customized therapies for genetic diseases by untangling complex RNA biological data. By identifying the genetic determinants for certain diseases, advanced algorithms can predict the likelihood of a genetic disease emerging.

Addressing weaknesses in cybersecurity

The transition to remote work and telehealth during the pandemic opened up new channels for hackers to exploit. Many cyber criminals took advantage of the use of unsecured WiFi and lack of enterprise virtual private networks (VPNs) to gain easy access to important data systems. According to a report from cloud security company Bitglass, the number of healthcare data breaches in 2020 increased by 55% from 2019.

Recently, hackers have escalated their methods of assault from just phishing and stealing information to large-scale ransomware attacks. In October of 2020, six hospitals were hit in just one day alone, leading to significant operational issues and system shutdowns. The attacks, which occurred while healthcare systems were already compromised due to the pandemic, highlighted major preexisting weaknesses in cybersecurity and demonstrated the importance of investing in secure data storage.

It's critical that healthcare IT leaders acknowledge the threat that cyber-attacks pose and establish preemptive measures to combat future incidents. Additionally, IT teams need to communicate effective cyber security practices to other staff members and work to identify possible vulnerabilities. Moving forward from the pandemic, organizations need to adopt a "when" and not an "if" mindset when it comes to potential future attacks.

Expanding coverage of telehealth services

With the onset of the COVID-19 pandemic, telehealth went from being a niche convenience to forming the backbone of many healthcare delivery systems. Now, after experiencing the value provided by remote care, providers and patients alike have expressed interest in keeping telehealth long-term.

One of the key benefits of remote care is the geographic gap it closed between physicians and their patients. Transportation and location once posed serious barriers when it came to scheduling medical appointments, especially in rural or low-income communities. Now, telehealth allows doctors to reach patients who have slipped through the cracks of the traditional healthcare system. Additionally, telehealth has overall been found to be able to support the delivery of high-quality and guideline-satisfying medical care, making it especially

useful in the treatment of individuals with chronic conditions, like cardiovascular disease or mental illness.

With the benefits of telehealth made apparent, many policymakers have introduced plans in an attempt to keep telehealth coverage long-term. In December 2020, CMS announced that it would be permanently expanding more than 60 telehealth services following the pandemic. Furthermore, in February of 2021, senators Tim Scott, Brian Schatz, and Jeanne Shaheen introduced the Telehealth Modernization Act in an attempt to protect access to healthcare in rural areas and lift limiting telehealth restrictions.

Improving user experience and digital relationships

With telehealth remaining long term in some form or another, more attention needs to be directed towards designing systems that enhance user experience and strengthen patient-provider relationships. A digital world requires seamless and comfortable interaction to facilitate collaboration and improve clinical outcomes.

One of the most significant areas in need of improvement is patient-centered design and customer relationship management. Without the face-to-face interaction that comes with in-person care delivery, many providers are concerned about their ability to build customer trust. Healthcare systems must be designed so that they are able to effectively handle real-time customer issues and maintain reliable communication channels with those they serve. Additionally, it's critical that healthcare providers ensure that their platforms are interoperable, and that data can be accessed and shared seamlessly across settings.

While the healthcare industry has focused primarily on designing patient-centered solutions, it's critical that physician needs be addressed as well. Even before the pandemic, many physicians were already burned out and felt they were wasting too much time on administrative tasks and paperwork instead of focusing on patient care. The solution here is the implementation of better human-centered design that emphasize the clinician experience. By automating certain administrative processes and enhancing interoperability between healthcare software solutions, organizations would see a significant return on physician satisfaction and in turn patient care.

Moving forward from the pandemic—easier said than done

As the world works to recover from the debilitating effects of the pandemic, there are still many questions that need to be answered. Moving forward, IT teams across the healthcare industry have a great deal of challenges to address over the next several months and even years.

Download Forrester Q&A. Lessons Learned by Healthcare Organizations During the COVID-19 Pandemic.

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How to Ace this Year's OND

Everyone knows that October-November-December (OND) is a critical time of year for companies selling wine, spirits, and beer. OND is rapidly approaching, and we want our customers to be ready for it. But how can they prepare? One approach is to create programs for trending—and gift-worthy—beverages. These programs will not only encourage consumers to buy because the products will be available in the store—they will reward your salespeople for stepping up their game. In this article, we'll look at what to include in these programs, how you can increase sales, and how you can track the success of these programs.

Rose Weinberger

Senior Marketing Manager
LinkedIn

What to include

What would you include in these programs? One idea is to increase your odds for success by highlighting some of the trending beverages.

In the newsletter EHL Insights' article Top 6 Drink Trends in 2021, four drinks are alcoholic. And in the June 29, 2021, Dimensional Insight webinar, "How Millennial Trends Are Changing Beverage Alcohol Sales & Marketing," panelists noted that "premiumization" would be a trend this year. So it is no surprise that EHL Insight's #5 top beverage is premium canned cocktails—made from high-quality ingredients, mixed, and packaged in cans. Here is the complete list of the "Top 6 Drink Trends in 2021" that EHL calls out:

1. Bubble Tea
2. Probiotic Beverages
3. Celebrity-endorsed wine and Champagne
4. Boxed Wine
5. Premium Canned Cocktails
6. Spiked Sodas and alcohol-free beers and spirits

Programs to increase your business

1. You've got your recommended trending beverages ready. But what kinds of programs can you use to increase sales? Well, we have some ideas to help. Here are some ideas for brand-based, market-based, sales region-based, and incentive-based programs.
2. Distributor programs for particular brands or items that the distributor sells to accounts (restaurants and stores)
3. Incentives to the sales team or even management
4. Monetary incentives like increased sales rep commissions, bonuses, or travel incentives

Here are 2 examples:

1. The distributor rep has to sell a certain number of cases within a fixed time frame to get the incentive. The incentive might be increased dollars per case sold to each of the salespeople who sold the cases.
2. A placement program with an incentive for making placements of a product in a certain number of stores and the placement defined as a certain number of bottles of a product sold into the account. The incentive might be a bonus per placement made to the salespeople that placed it in the accounts.

These programs focus on creating excitement. And people often act when they are excited about your program.

How to track programs with Program Advisor

Now that you've got your programs, you'll need help following and tracking all the details. That's where Program Advisor comes in.

Sales managers know that some of their promotions are working more profitably than others. Yet, the amount of time and energy it would take to compare all the factors of all their promotions often makes compiling the information an overwhelming task. Program Advisor can do that work quickly and easily. In addition to appreciating a faster input of the programs, users of Program Advisor find that by analyzing the collected data from Program Advisor, they can stop promotions that are losing money and reinvest in those that bring in more profit. Here are some of the programs tracked with Program Advisor:

1. Dollars—The total dollar value that each account is spending on products.
2. Cases—The total number of cases that each account is purchasing.
3. Bottles—The total number of bottles that each account is purchasing.
4. Accounts Sold—The total number of accounts that are purchasing the product.
5. New Accounts Sold—The number of accounts that are purchasing the product that did not previously purchase the product.
6. Recurring Accounts Sold—The number of accounts that are purchasing the product that did previously purchase the product (reorders).
7. Placements—The number of individual products that an account is purchasing.
8. New Placements—The number of individual products that an account is purchasing now that they did not purchase before.
9. Recurring Placements—The number of individual products that an account is purchasing now that they did purchase before (reorders).
10. Points—The total point value of the products purchased by an account.

One distributor that has implemented Program Advisor is Allied Beverage. The organization needed a centralized way to track the effectiveness of sales programs and provide sales reps with a daily look at their progress towards goals. The organization uses Program Advisor, an application built on Dimensional Insight's Diver Platform, that tracks and measures the effectiveness of sales programs. With Program Advisor, Allied Beverage can set sales program goals for reps. The reps

can then log in to the application to get real-time updates on whether they meet those goals. Allied Beverage is also able to track incentives and payouts through Program Advisor.

This ability to track programs is essential, given that Allied Beverage has many programs it is running every month for sales staff. Unfortunately, that number can grow exponentially in October, November, and December. That isn't easy to track. However, with Program Advisor, Allied Beverage can easily calculate and split goals at all tier levels within their organization, saving Excel formulas and calculations time.

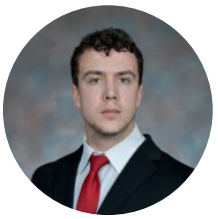
Another company using Program Advisor is wine and spirits distributor Brescome Barton. "Programs are one of the more difficult areas for the company to track," says Kevin Kranzler, the Chief Operating Officer at Brescome Barton. "We were tracking programs in spreadsheet form, and we didn't have daily program updates—some were weekly but most were monthly. So we didn't have day-to-day visibility."

With Program Advisor, the company was able to meet its business challenges. For example, Program Advisor helped Brescome Barton link goals and sales in the same system. □

5 Business Intelligence and Analytics Trends that Are Shaping 2021

Trevor Branch

Marketing Writer
LinkedIn



Although industry standards and trends change every year, the last year or so was presented with particularly unique circumstances amidst the onset of the COVID-19 pandemic. Organizations were forced to develop creative and innovative solutions in the face of all the novel challenges that come with a remote world, and the business intelligence industry is no exception.

As organizations reoriented their strategies to reflect the bizarre circumstances, new trends began to arise in the field of data analytics. Howard Dresner, one of the leading industry analysts in business intelligence, identifies many of these trends in his recent release Dresner Advisory Services' 2021 Wisdom of Crowds® Business Intelligence Market Study. As we move forward from the pandemic and look to the future, it's important to keep an eye on trends in the industry to better understand where the market is heading in the next several years.

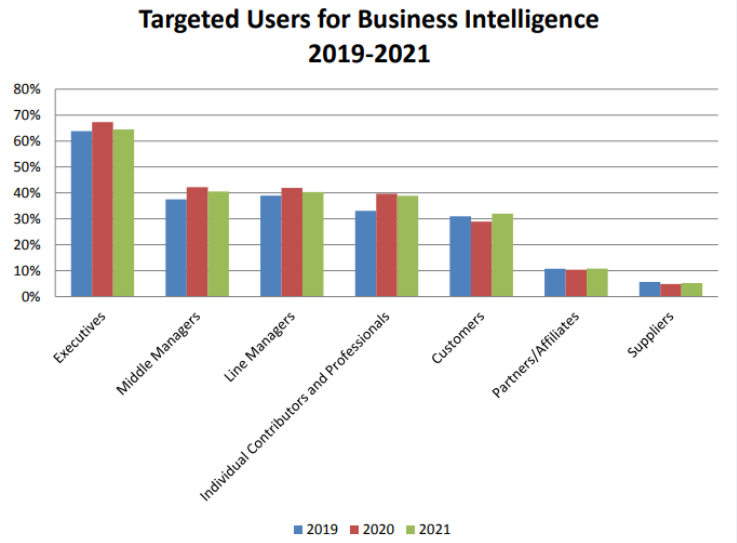


Figure 12 – Targeted users for business intelligence 2019-2021

1. The customer demographic is entering the spotlight

For a while now, business intelligence groups have targeted the higher-ups of organizations for the implementation of their various products. However, according to the 2021 Wisdom of Crowds® report, this target audience has begun to shift over the past year.

Since 2020, business intelligence groups have begun to focus more on the needs of the customer audience, with the percentage of the customer demographic having increased by a substantial 11%! Likewise, the traditional top four targeted audiences of business intelligence (executives, middle managers, line managers, and individual contributors) have all decreased in priority. Furthermore, the most successful reported business intelligence organizations target and enable all potential audiences, indicating that overall success depends on helping companies succeed at all levels of infrastructure.

2. User feedback is key to measuring success

Despite the high expectations and obstacles presented by the pandemic, success with business intelligence has continued to improve over the past year. But how exactly do we measure "success with business intelligence?"

According to the 2021 Wisdom of Crowds® report, the greatest measure of success happens to be user feedback. The report discovered that 79% of respondents found user feedback to be the best measure of business intelligence success, a stark contrast to the 40% of respondents who relied on system/application activity. Furthermore, respondents reported that the greatest contributors to business intelligence success include executive support (77%), communication (62%), and a culture that understands the value of fact-based decision-making (59%).

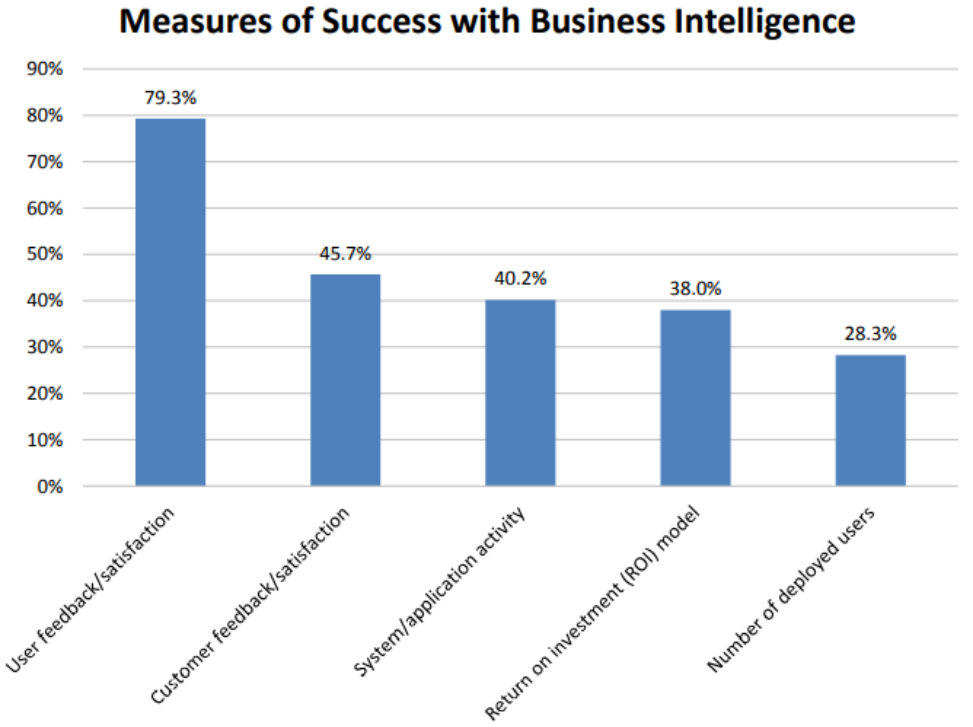


Figure 70 – Measures of success with business intelligence

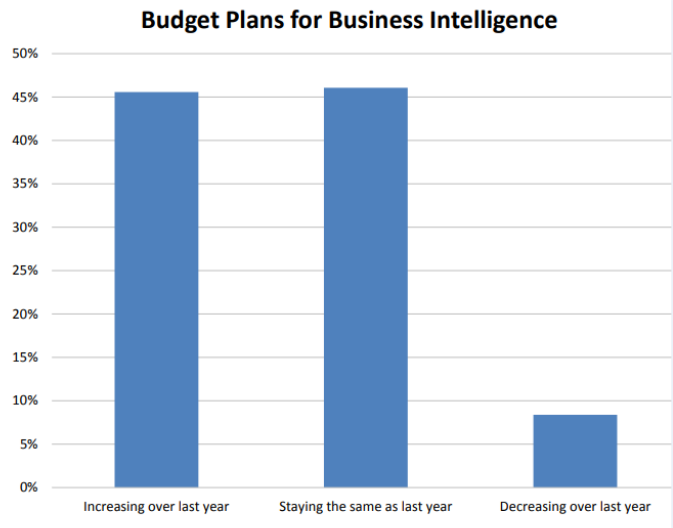


Figure 82 – Budget plans for business intelligence

3. Organizations are willing to spend more

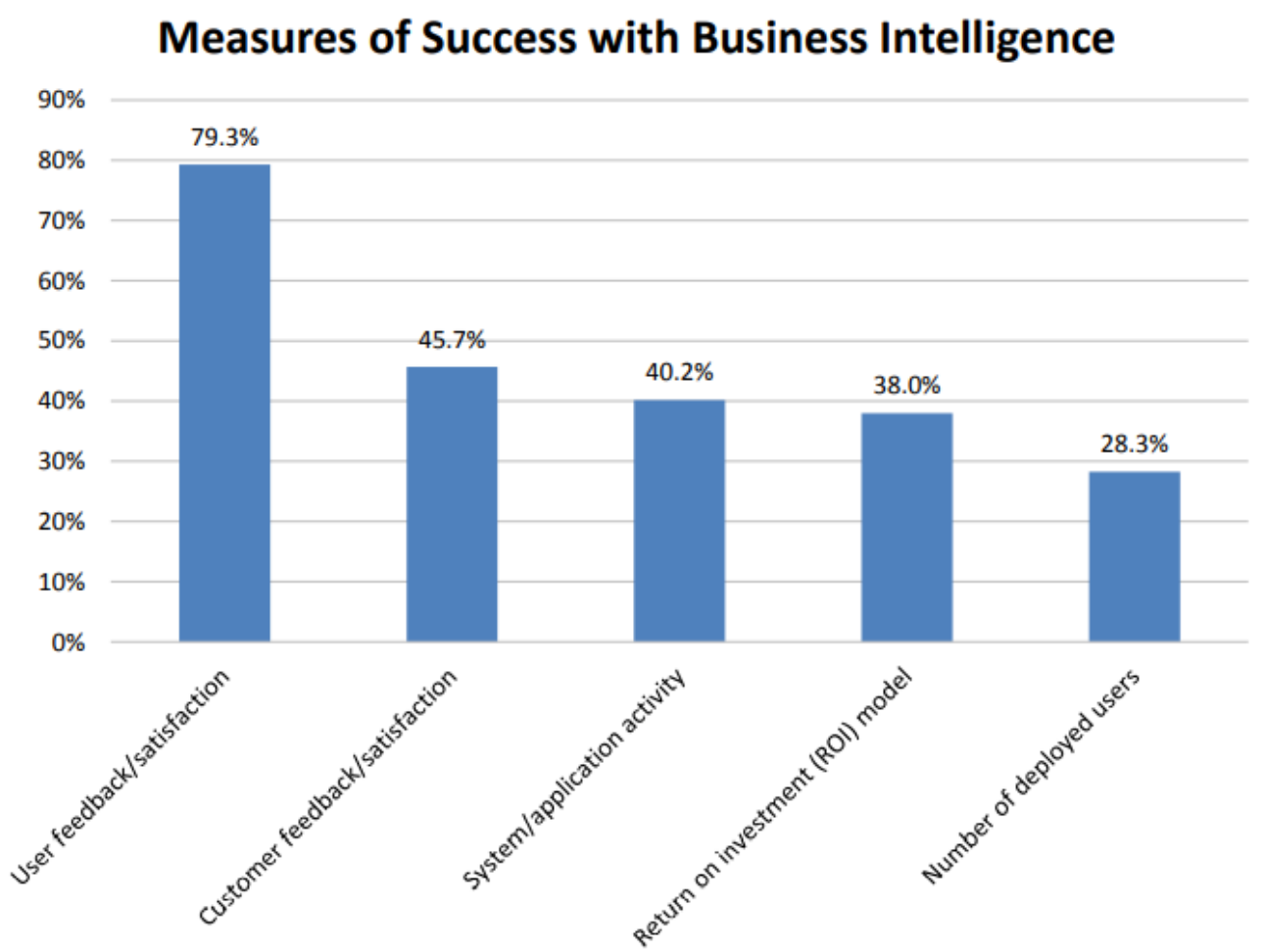
As the business intelligence industry grows, so are companies' budgets. The 2021 Wisdom of Crowds® report found that a whopping 46% of respondents intended to increase their business intelligence budget in 2021, with another 46% intending to at least maintain their budget from 2020. Although this is 5% lower than the number of respondents who intended to increase their budget in 2020, the drop is offset by the 6% of respondents who reported a budget freeze in 2021.

It's worth noting that this fluctuation in budgeting is likely in part due to the pandemic, as companies were forced to take more precautionary measures. With these limitations in mind, business intelligence groups are prioritizing helping companies make the most of their resources

4. Market penetration of business intelligence isn't slowing down

With the increase in market spending on business intelligence, it should come as no surprise that the percentage of total employees using business intelligence has grown significantly over the past few years. The Wisdom of Crowds® report found that more and more companies are reporting higher levels of business intelligence use throughout their organization. For example, the number of companies with a reported business intelligence penetration of 81% or more doubled from 2015 to 2021!

This is because business intelligence groups are providing more and more options to optimize business functions at all levels of operation. There are also no signs of slowing down either, as organizations are still pursuing bullish plans to expand business intelligence use, going so far to reduce sub-10% penetration by almost half (from 25% to 14%) in just 12 months' time!



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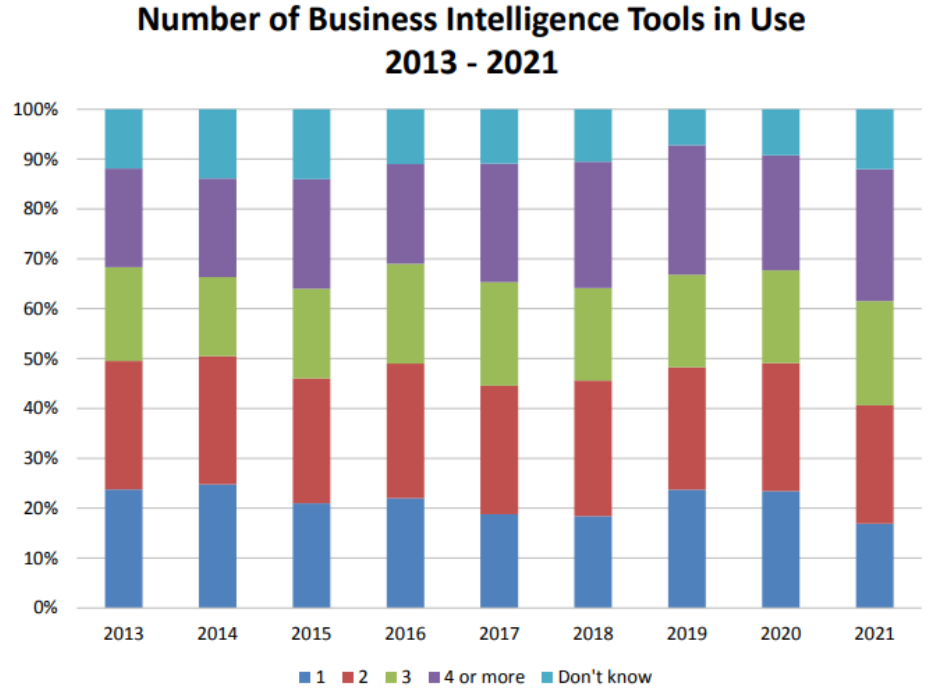

Figure 48 – Number of business intelligence tools in use 2013-2021

5. Organizations are using more tools

With business intelligence budgets increasing every year, we're seeing more and more companies take advantage of the diverse supply of tools available on the market. According to the Wisdom of Crowds® report, the number of business intelligence tools in use per organization is increasing, with the number of companies who report only one tool in use down from 23% in 2020 to 17% in 2021.

As in recent years, the most popular use of technology business still lies in the familiar technologies of reporting, dashboards, data integration, and data warehousing. Some business intelligence groups have adapted to this recent trend by combining multiple tools into one package in order to provide a much more seamless user experience. For example, Dimensional Insight's Diver Platform® provides users with data integration, data management, analytics, and visualization in one convenient platform.

Conclusion

New trends in the business intelligence market are constantly emerging as the world rapidly progresses forward. The COVID-19 pandemic brought about a particularly interesting year for the industry, with many companies forced to adapt in light of the new circumstances.

To learn more about these and other business analytics trends, download the full Wisdom of Crowds® report below.

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Artificial Intelligence: A Look at Both Benefits and Drawbacks

by **John Sucich,**
Contributing Writer

When it comes to artificial intelligence, the possibilities seem endless. From life-saving medical advances to making shopping more convenient for consumers, people dream about the ways AI can help them achieve things they've never been able to do before.

It is not without justification—the ability of AI to process increasing amounts of data in a faster way than any previous innovation ever could means unprecedented gains can be made.

But there are limitations, and some people feel the way AI is talked about sets expectations higher than they should be. Just how intelligent is artificial intelligence? Let's explore.

How AI is being used

In almost any industry, you can point to some way artificial intelligence is being used to make a difference. Scientists are using an AI tool to help predict Arctic sea ice loss. There are countless examples of the ways the medical field is using AI, including everything from biomedical research and identifying diseases in x-rays to tasks such as record-keeping or prescription fulfillment.

AI is one area where the pandemic might have spurred growth rather than slow it. Data from PitchBook shows almost $38 billion has been invested in AI startups so far in 2021, on pace to double the amount from 2020.

That number doesn't even include the amount of research or experimentation that continues in the field. A team of computer science students at Emory University are working on advancing a chatbot that can make logical inferences that can hold deeper, more nuanced conversations with humans. There is even a play written and performed live with AI—where an audience watches as the play's creators prompt the AI to produce a script that actors will then perform. And that exercise gets at some of the problems people associate with artificial intelligence.

The pitfalls

When people refer to the tasks conducted by AI they do so in familiar terms. Intelligence is a term used to describe living beings—"natural" intelligence—which is why the "artificial" distinction is made for AI. And because AI uses machine learning—where it can figure out how something is constructed to continue performing tasks without constant human intervention—it is said to be able to "think." But the truth is any "thinking" done by AI is led by humans, and the flawed world in which humans live.

That's where bias makes its way into the world of artificial intelligence. Organizations use AI to handle huge amounts of data—so much that it is generally counter-efficient for them to take the time to go through that data for problematic information. As a result, some work produced by artificial intelligence replicates the biases such as misogyny, racism, and homophobia, for example, that are seen in the human world. So that AI play? There are inevitably some uncomfortable moments reflecting AI's "understanding" of the world.

The same is true with health information. Alistair Erskine, the chief digital health officer at Mass General Brigham, recently said on the Smarter Healthcare podcast, "AI is dependent on the data that feeds it. And that data in some cases can be very biased, either in the way that it's inputted, or even in the way that the population is organized within one area of the market. [Also] Just because the model was working today doesn't mean the model is going to work well tomorrow. It may need to be re-trained. We're going to have to constantly go back through our governance model and figure out how to support it." In other words, the intelligence aspect of AI is only as intelligent as the people who are putting it to use.

Overcoming the challenges

A very important aspect of figuring out a solution to this problem is the fact that so many of the people using and designing AI have identified the problem. They are well aware of it and are working to address it. The work being done at Emory is a good example of an AI correction. The original chatbot did a good job, but the longer a conversation lasted the deeper the AI went into a conversational flowchart, increasing the chances the it would totally miss the point of a question. The further development of the chatbot allowed the AI to make more logical inferences deeper into a conversation. The solution was human-driven. As graduate student Han He says, "A computer cannot deal with ambiguity, it can only deal with structure." Humans are providing the structure.

There's also an effort to solve the problem from the start of new projects. The National Science Foundation and the Department of Homeland Security are funding Athena, an artificial intelligence research center that's part of a $220 million investment in 11 AI research institutes in 40 states. Athena is led by Duke University and includes, among other prominent colleges and universities, MIT and Yale. Among Athena's goals? Work by researchers to ensure the center meets racial and gender diversity goals by year five of the project. □

Learn more about artificial intelligence and other data trends that are impacting 2021 in this white paper.

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