

DATA & ANALYTICS FOR THE HOSPITALITY SECTOR

How aggregating data within a single platform can uncover hidden insights and help you make better, smarter decisions for your restaurant.



Executive Summary

The concept of harnessing and interpreting the large volume of data that a business generates to drive better decision making has been around for some 20 years.

The hospitality sector, however, has been relatively slow (or otherwise unable) to take advantage of available data, and to act accordingly. While some chains with a sophisticated IT infrastructure have begun to take full advantage, others are only now beginning to dip their toes in these unfamiliar waters.

With the convergence of analytics software, cloud computing and mobile devices, the benefits of “big data” are more accessible now to just about everyone in the business. But it’s not enough to just have the data. With so much information available, it needs to be aggregated smartly and concisely. Otherwise, many operators will end up spending all their time collating and combining data to create KPI reports instead of uncovering trends and acting on valuable insights.

Today, adding an analytics solution to your existing IT systems can be cost-effective and give decision-makers across the business the evidence and insight they need to reduce costs, improve efficiency, enhance customer satisfaction and boost profits.

Introduction

These are uncertain times for the hospitality industry, as operators confront unprecedented cost pressures. From new minimum wage laws and rising labor costs, to fluctuations in vendor pricing, to rent increases, there are many external factors that may feel outside of your control. In order to get ahead and to stay profitable, the key is to fully understand your business so you can make better, more informed decisions. This begins with understanding the numbers.

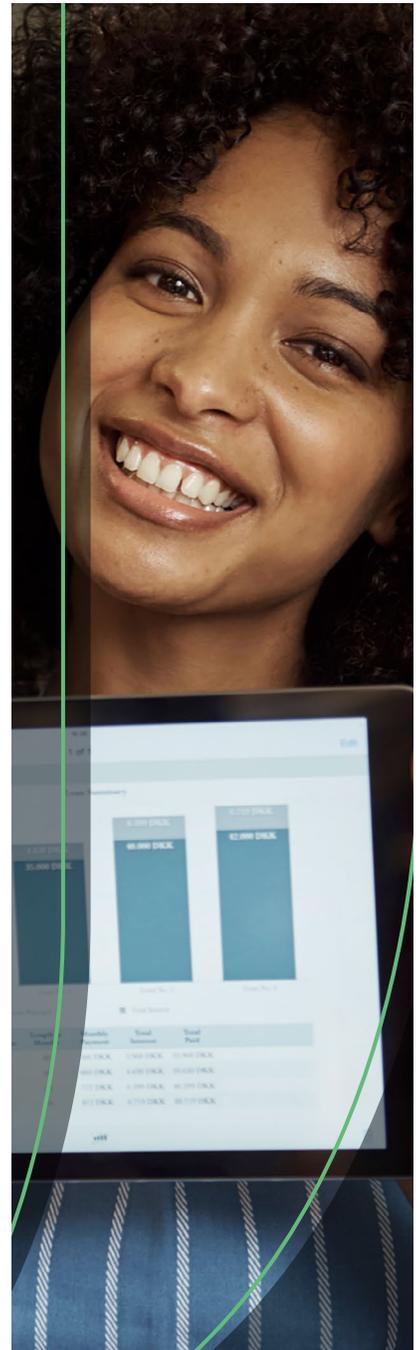
Of course, success in hospitality has always depended on quantitative measurement. How much did we sell yesterday? Last month? This week last year? Which branch is doing best? What's our gross profit (GP) and which way is it moving? What's happening to our staffing costs and how quickly are they rising? And, based on years of experience, most operators have had a reasonable idea of the overall picture.

But a "reasonable idea" isn't enough. With increasingly razor-thin margins, operators can't rely on "guestimations." The savviest operators understand that power of seeing the full picture: by knowing exactly what's going on, they can make informed decisions, adjust course where necessary, and better predict the future. By digging deep into their business insights and their customers' behavior, these operators are equipped with what they need to adjust pricing, adapt menus, review purchases, change or better manager vendors, improve employee training, set stronger schedules, and so on. Leveraging data is the key to success.

Beyond "Big Data" – How to Best Use the Mountains of Data at Your Fingertips

Drowning in data can be just as bad as not having enough. Simply having access to huge amounts of data is hardly useful. Many teams end up operating in silos, working off of what data feels most relevant for them.

For the hospitality industry especially, being able to tap into a wide variety of data sources — and, critically, integrate them — yields significant and almost immediate benefits. After all, it is impossible to see the whole picture when only looking at a handful of puzzle pieces. Since manually correlating this data is both time consuming and cost prohibitive, the right tool is critical for success (and sanity).

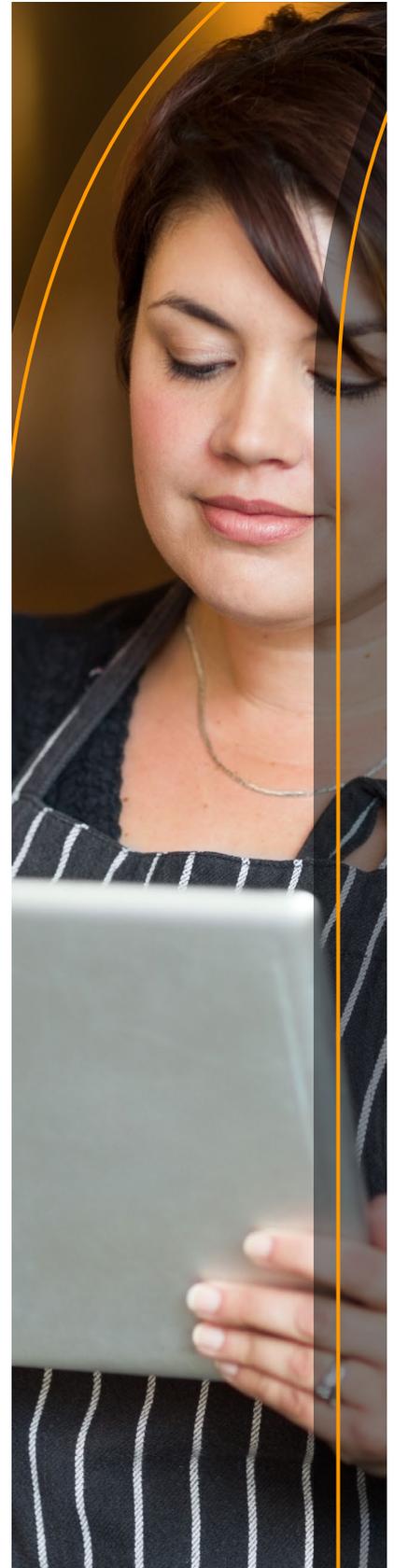


By using technology to quickly collate, analyze and understand huge amount of data from different sources, you can transform the customer experience and operate more efficiently. What kind of data are we talking about? Just about anything a hospitality business generates, including, but not limited to:

- > POS
- > Property Management Systems (PMS)
- > Kitchen Management Systems (KMS)
- > Reservations
- > Labor and payroll
- > Staff scheduling
- > Inventory
- > Vendor performance
- > Ingredient price fluctuations
- > Menu item popularity and profitability
- > Employee engagement levels
- > Purchasing and invoicing
- > Health and safety
- > Internal audit
- > Fixed costs/rents
- > Industry trends
- > Forecasting accuracy
- > Weather feed
- > National and local event information
- > Competitor analysis
- > Guest feedback
- > Customer sentiment
- > TripAdvisor
- > Facebook
- > Twitter
- > Employee feedback and pulse surveys
- > Campaign analysis

The right analytics software should seamlessly collate this information, to give you a holistic view of the business. For example, with POS integration, you'll be able to see not only what was sold but when, to whom and by whom, and what else was ordered. Combining data within the business gives you a much clearer understanding of your underlying performance and the reasons behind it. In turn, this gives you the power to make informed changes. You can adjust almost anything on a company-wide or individual site basis. For example, you can map sales against employee costs, margins, customer experience ratings and more. You can examine the difference between actual and theoretical GP, identifying individual site performance. You can assess the influence of specific area managers, team members, and even ingredient pricing.

Most importantly, you can transform understanding into innovation. Using this data correctly can help you make the shift from analyzing the past to forecasting the future. Understanding what you are going to sell and when (and who is needed to prepare or serve it) will allow you to better manage your inventory and schedule appropriately. That way, you'll always have the right people on the shift at the right time to deliver the optimal guest experience.



Information in the Right Hands

The new generation of data analytics is immensely powerful. It's a practical tool that brings relevant information and actionable insight to the whole business, from senior executives to central services to site managers.

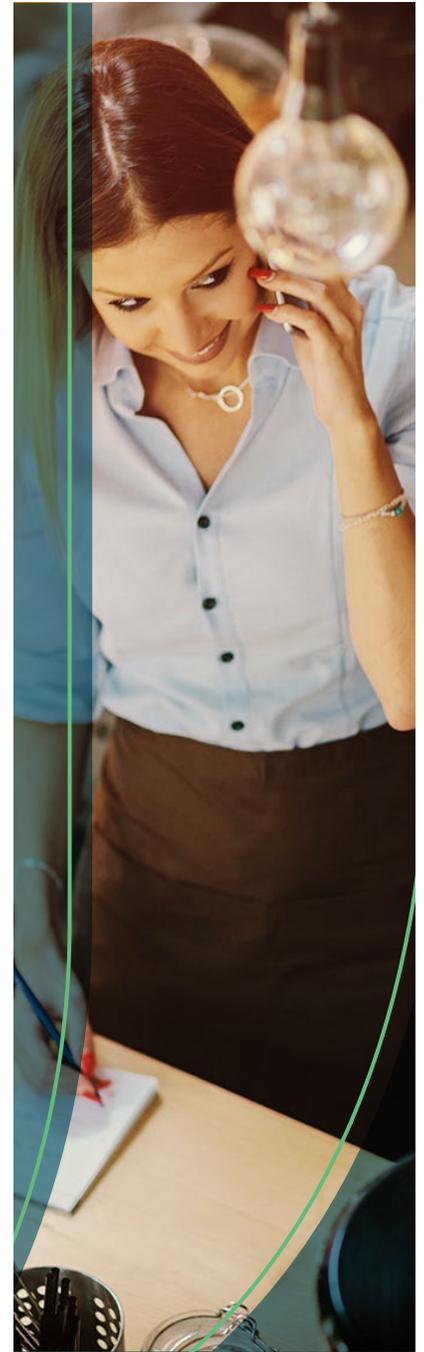
By combining the speed and capacity of cloud computing with simple interfaces and interactive dashboards, it provides near-instant answers to the questions that matter: "Who's our strongest vendor? Who are our best-performing employees? What's our most profitable menu item? At what time of day? What do we need to adjust to reduce waste and increase profitability?" and so on.

By presenting the answers on mobile devices, it also frees managers from the back office. And because machine learning can automate approximately 90% of the everyday decisions a manager has to make — "Do we need to order more tomatoes? Does our schedule for tomorrow align with what's predicted to sell?" — your teams will have more time and energy to devote to the issues that only a human being can determine. It means your best managers spend less time at a desk and more time on the floor, where they can really make a difference.

Getting Started

So how do you get started gleaming insights from these heaps of data? How do you implement the infrastructure you need without getting bogged down in a huge IT project? We all know that many initiatives like this are poorly planned, take forever to complete and end up costing a fortune.

In fact, this typically happens when companies try to create their own solution without fully understanding the work that's needed to create a suitable back-end solution. They often don't appreciate what front-end dashboards and content they will need, nor which specific data sources and information they should analyze. The most common result is that the system can't display all that potentially invaluable data, and the users can't understand or use it. This leads to operations staff losing faith in the initiative, and the project failing. Fortunately, there's a better way.



How Fourth Can Help You

Our Fourth Analytics solution collects, processes, analyzes and interprets huge amounts of varied data, so you and your staff can understand the past, better predict the future, and take the right actions right away. We help provide a holistic view of your performance, and give you the tools you need to make improvements. Fourth Analytics provides data and insight from our fully-integrated back-office solution, and brings in a host of other integrated systems, while our library of APIs allows any technology partner to easily share data through the Fourth platform.

Our hospitality experts have built Fourth Analytics over the course of 15 years, and have continually fine-tuned it so it's as relevant and engaging as possible. And as Software as a Service (SaaS), it's available out of the box and can start driving ROI and improving business performance almost instantly.

It's easy to set up (typically within a few weeks) and its intuitive design means we can train your staff to use it in just a couple of hours. Our support specialists are available around the clock; you won't need to employ specialist IT staff or business analysts, nor invest in new hardware, since the web-based interface will work on any connected device. Best of all, it won't break the bank.

You can find more information on Fourth Analytics along with some examples of the type of dashboards and reports available, on page 6.

What's Next?

Harnessing the power of your data is the first step in an exciting new journey. Soon, the distinction between transactional and analytical data will fade. The smartest operators will run agile businesses that make informed decisions based on a holistic, 360-view, allowing them to optimize their back-office operations in real time.

Efficiency will win. Activity that used to be managed on daily or weekly basis will be done by the hour or even more frequently. Site managers will be able to adjust variables just as easily as head office staff can. Pricing, offers, inventory, staffing, kitchen schedules and more will become powerful tools that are quick and easy to deploy across the business or in individual circumstances.

Above all, it will have a huge positive impact on the bottom line, while helping maximize top-line potential. For those who seize this opportunity, the rewards could be immense.

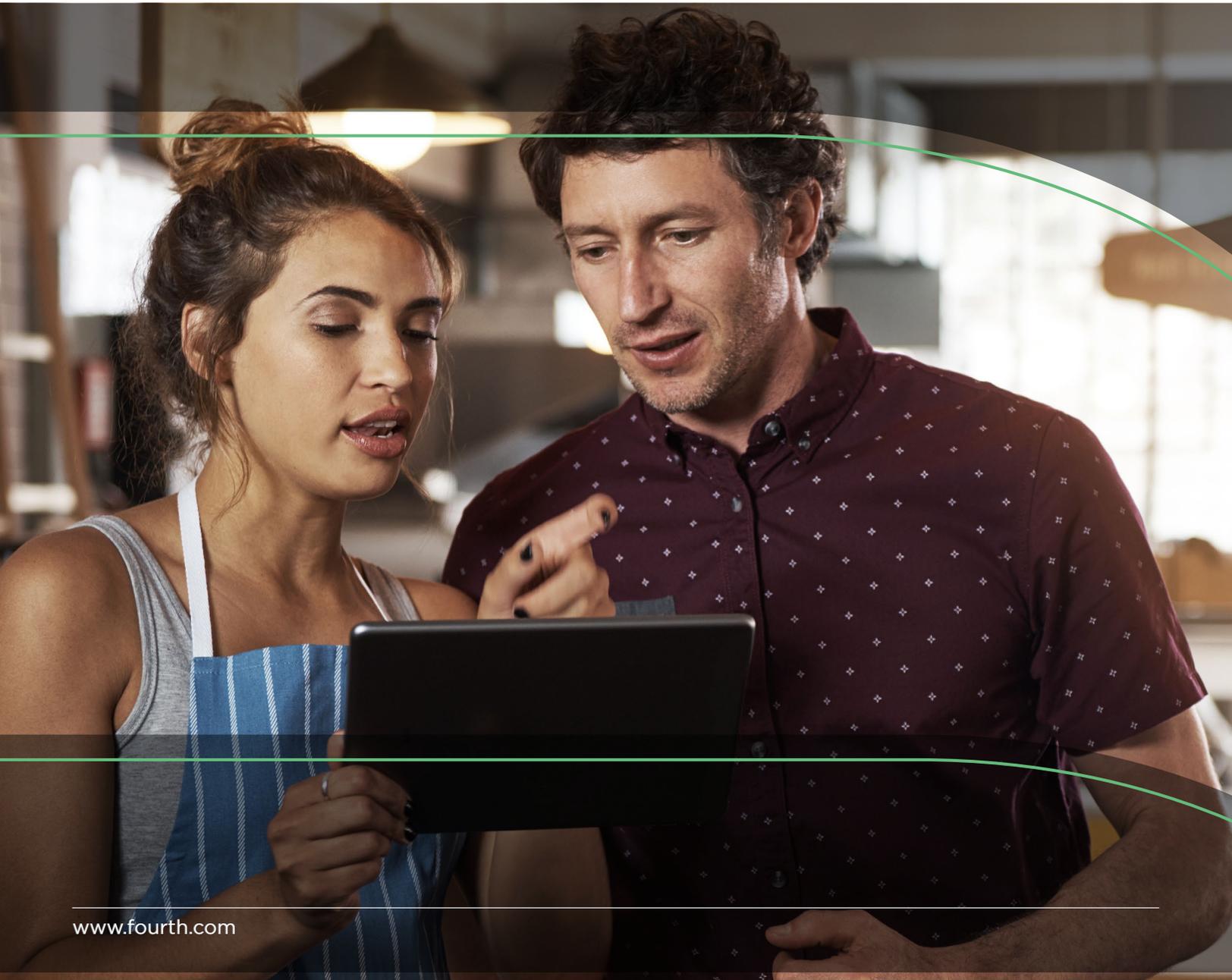


More about Fourth Analytics

Fourth Analytics offers a fully-integrated analytics platform, which allows permission-based access anywhere and on any device. By bringing everything together in one place, laborious weekly reporting is a thing of the past. Flash P&Ls are now sent automatically to all the relevant team members, who can then take immediate action on the information given.

All data feeds are configured to quickly integrate and provide clear, visual dashboards, using vast amounts of internal and external data, easily designed to customers' unique requirements.

Critically, Fourth Analytics provides substantial additional reporting capabilities. Its external data gateway manages the integration of POS data down to full check-level detail from any POS vendor. Fourth Analytics also manages the integration of other external data sources, such as TripAdvisor, social media, guest feedback tc. so all the information is in one place, and users can uncover previously hidden insights and drive better decision making. By breaking down silos and pulling data from a host of different systems, Fourth Analytics allows for whole-picture visibility and actionable insights.



Example Dashboards and Reports from Fourth Analytics

Flash Profit & Loss

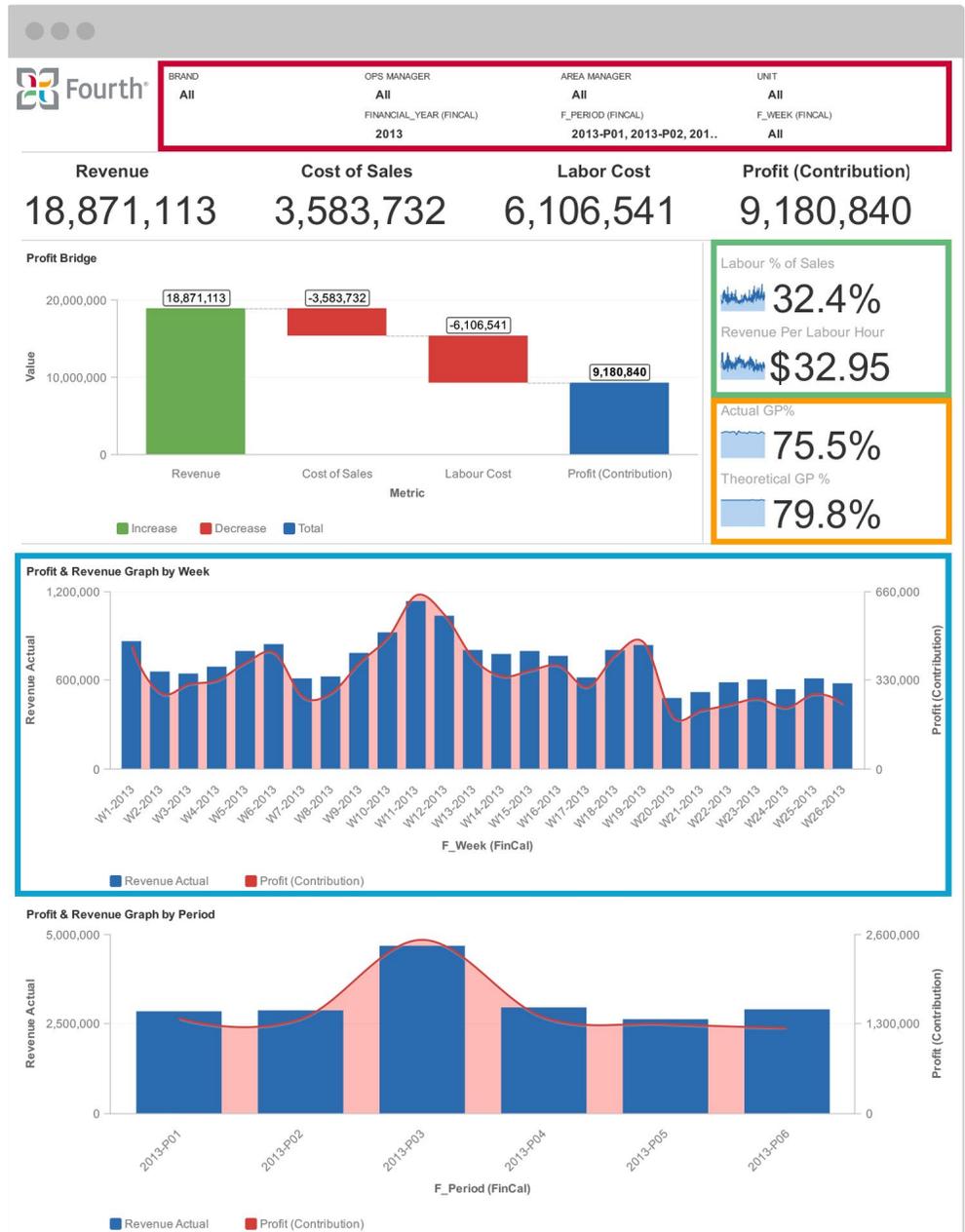
Accurate, timely and at the click of a mouse. Saves one person two days a week.

Filter your data any way you want.

Interpret huge amounts of data in a heartbeat.

Measure your actual vs. your theoretical GP.

See how profit performs in line with sales.



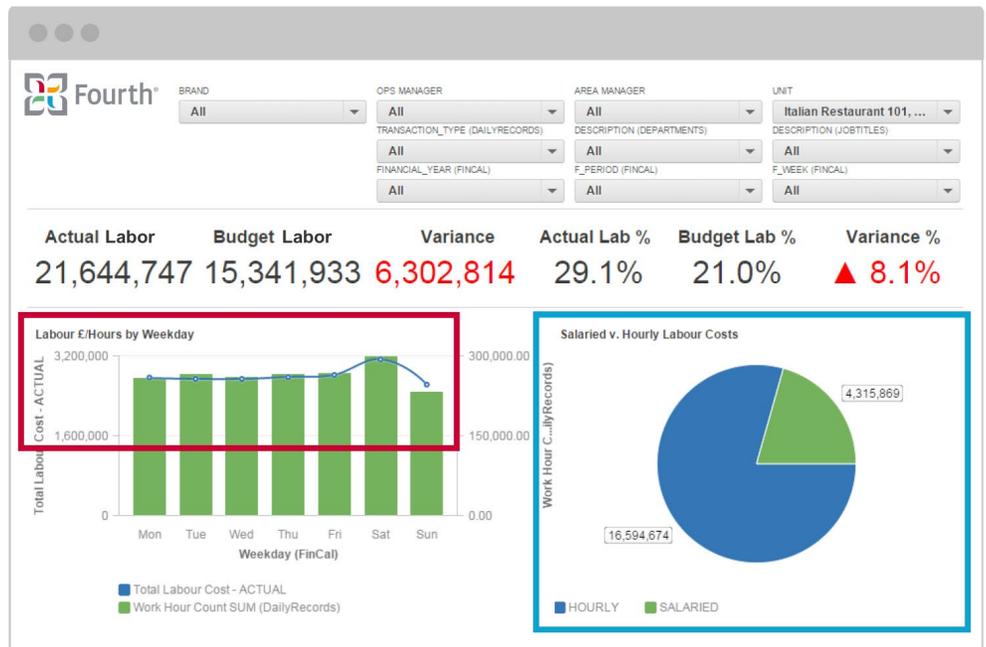
Focus on every aspect of cost, whenever you want.

Flash P&L by Unit											
Name (Units)	Revenue	Vs Budget	Vs Bud %	Cost of Goods	Gross Profit	GP %	Act. Labor	Lab %-Act	Lab %-Bud	Variance %	Profit
Italian Restaurant 101	378,412	-49,320	▼ -11.5%	72,673	305,739	80.8%	113,911	30.1%	25.4%	▲ 4.7%	191,828
Italian Restaurant 102	495,612	-92,888	▼ -15.8%	90,831	404,781	81.7%	182,675	36.9%	29.3%	▲ 7.5%	222,106
Italian Restaurant 103	817,163	191,906	▲ 30.7%	154,906	662,257	81.0%	181,366	22.2%	26.2%	▼ -4.0%	480,891
Italian Restaurant 104	1,266,191	146,891	▲ 13.1%	226,344	1,039,847	82.1%	351,503	27.8%	23.4%	▲ 4.3%	688,343
Italian Restaurant 105	165,698	-116,388	▼ -41.3%	31,836	133,862	80.8%	66,591	40.2%	25.4%	▲ 14.8%	67,271
Italian Restaurant 106	867,340	82,340	▲ 10.5%	155,843	711,497	82.0%	224,227	25.9%	22.7%	▲ 3.2%	487,270
Italian Restaurant 107	1,049,511	-7,889	▼ -0.7%	169,172	880,339	83.9%	290,685	27.7%	20.2%	▲ 7.5%	589,653
Mexican Restaurant 201	421,667	-4,319	▼ -1.0%	58,251	363,416	86.2%	90,989	21.6%	13.3%	▲ 8.3%	272,427
Mexican Restaurant 202	3,809,743	177,840	▲ 4.9%	853,055	2,956,688	77.6%	1,304,010	34.2%	23.3%	▲ 11.0%	1,652,678
Mexican Restaurant 203	1,563,137	120,637	▲ 8.4%	298,031	1,265,106	80.9%	445,622	28.5%	20.5%	▲ 8.0%	819,484
Mexican Restaurant 204	4,637,693	510,665	▲ 12.4%	932,395	3,705,298	79.9%	1,032,680	22.3%	15.7%	▲ 6.6%	2,672,618
Mexican Restaurant 206	2,704,181	-37,394	▼ -1.4%	515,087	2,189,094	81.0%	573,403	21.2%	18.9%	▲ 2.3%	1,615,691
Mexican Restaurant 207	0	0					516,784				
Mexican Restaurant 208	527,056	-67,733	▼ -11.4%				610,343	115.8%	94.5%	▲ 21.3%	
Rollup	18,871,113	710,409	▲ 3.9%	3,583,732	15,287,381	81.0%	6,106,541	32.4%	23.0%	▲ 9.4%	9,180,840

Actual vs. Budgeted Labor Cost Variances

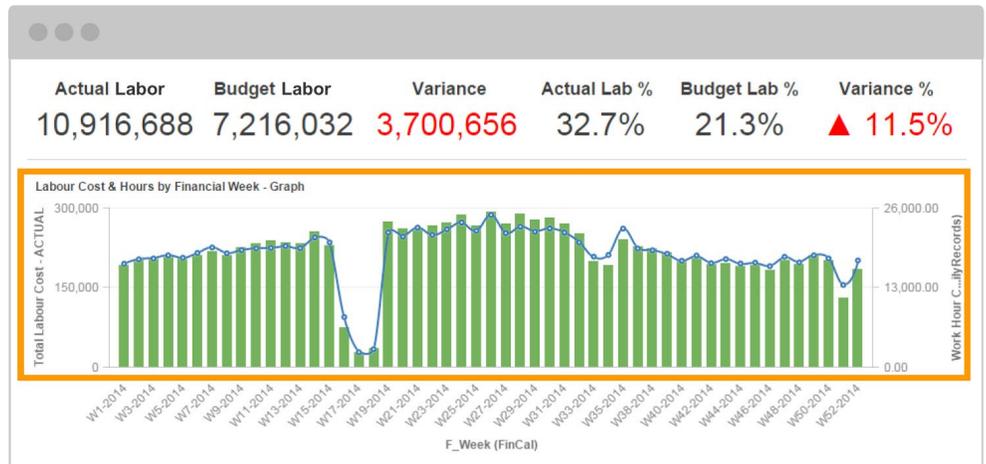
Easily monitor your actual labor cost vs. hours worked.

Understand operational gearing at a glance – your salaried vs. hourly labor mix instantly shows how flexible your labor costs are.



Labor Trend Analysis

Analyze labor trends.



Payroll Analysis

See gross-to-net pay history...

...and payment/deduction type history.

Benchmark your payrates against your competitors' — are there links between pay scales and staff turnover?



Staff Absence Analysis

Track absences by reason.



Track absences by month.



Track absences by length or service and employment type.

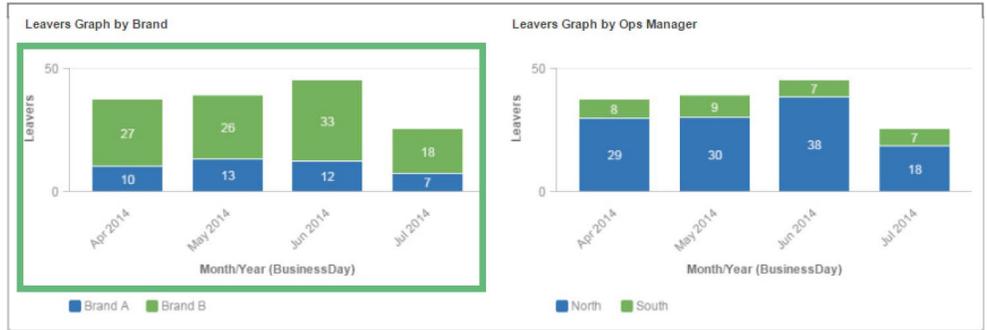


Staff Turnover Report

Is this disparity in leavers' gender in line with the overall gender mix?



Why is Brand B losing more people than Brand A?



Daily Labor Productivity Analysis

Easily see the variance between actual hours vs. required hours to meet forecast demand.

Highlights overstaffing by timeslots.

See when the biggest areas of labor overspend occur.

See who the best — and worst — performing Area Managers are.

Fourth AREA_MANAGER (UNITS) STATUS UNIT DESCRIPTION (DEPARTMENTS)

All All All All

Please select any week from 24th Nov 2014 to 23rd Feb 2015 DATE DIMENSION (BUSINESSDAY) WEEKDAY (FINCAL) TIMESLOT_HOURLABEL (TIMESLOTS)

Feb 2 2015 - Feb 8 2015 All All

Actual Revenue	Forecast Revenue	Variance	Variance %
\$1,342,914	\$976,259	366,655	▲ 37.6%

Actual Hours	Required Hours	Variance	Minimum Hours	Demand Hours
35,785	27,471	8,314	23,846	14,879

Productivity Table - By Timeslot

TimeSlot_HourLabel	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Rollup	
Actual Revenue	0.103	\$124,877	\$99,894	\$110,024	\$149,342	\$148,481	\$109,315	\$58,745	\$7,261	\$111	\$1,342,914
Forecast Revenue	2,835	\$96,474	\$74,825	\$76,398	\$96,930	\$102,307	\$77,384	\$39,335	\$8,722	\$633	\$976,259
Variance	7,268	28,404	25,069	33,626	52,412	46,175	31,931	19,409	-1,461	-522	366,655
Variance %	8.1%	▲ 29.4%	▲ 33.5%	▲ 44.0%	▲ 54.1%	▲ 45.1%	▲ 41.3%	▲ 49.3%	▼ -16.8%	▼ -82.4%	▲ 37.6%
Actual Hours	3,099	2,954	2,784	2,848	2,802	2,647	2,359	1,861	1,038	225	35,785
Required Hours	2,494	2,145	1,983	1,993	2,138	2,124	1,829	1,448	1,027	229	27,471
Variance	605	809	821	855	664	523	530	413	11	-4	8,314
Minimum Hours	2,011	1,843	1,766	1,791	1,821	1,732	1,599	1,315	845	194	23,846
Demand Hours	1,706	1,315	1,096	1,118	1,342	1,435	1,160	770	419	98	14,879

Actual vs Required Hours Graph - By Timeslot

Productivity - Week Summary by AM

Area_Manager	Actual Sales	Forecast Sales	Variance	Variance %	Actual Hours	Required Hours	Varia	Min Hours	Demand Hours
Area Manager 2	\$233,526	\$141,637	91,889	▲ 64.9%	6,834	3,607	3,227	2,875	2,233
Area Manager 7	\$288,869	\$191,619	97,250	▲ 50.8%	6,744	4,794	1,950	4,055	2,763
Area Manager 4	\$299,375	\$222,156	77,218	▲ 34.8%	7,726	5,926	1,800	4,854	3,493
Area Manager 3	\$152,419	\$109,738	42,682	▲ 38.9%	4,731	3,589	1,142	3,189	1,862
Rollup	\$1,342,914	\$976,259	366,655	▲ 37.6%	35,785	27,471	8,314	23,846	14,879

Menu Quadrants

Plot your menu items against each other by profitability and popularity...

...showing which menu items may need re-evaluating...

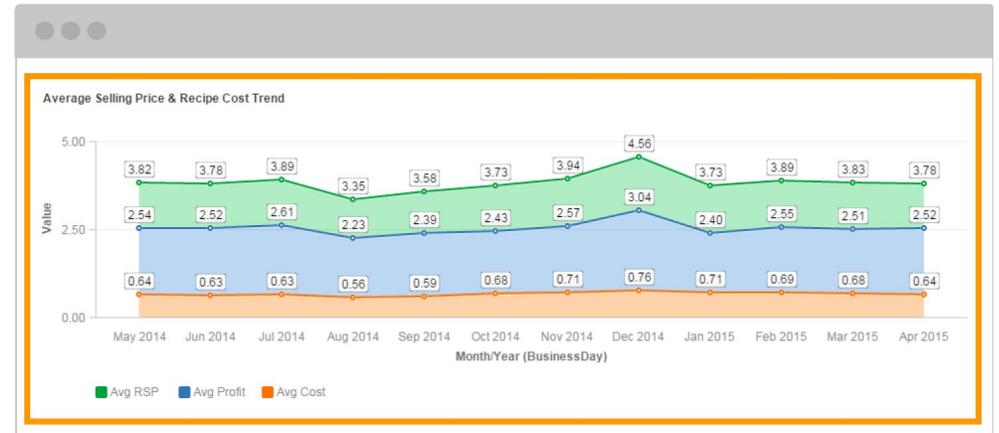
...and highlights profit improvement opportunities by showing where selling prices are too low.

Menu Quadrant Report

Category	Menu name	Men	Quantity	Sales	Avg Price	Avg Cost %	Avg Profit	Sales Mix %	Classification
22 Breakfast	2 Granary Toasts	B16	36,919	\$58,068	\$1.57	19.6%	\$1.26	2.76%	STAR
	2 Granary Toasts PKS	61FI	2,044	\$2,816	\$1.38	22.1%	\$1.07	0.15%	DOG
	Bacon Bap	C14	14	\$0	\$0.00		\$-2.05	0.00%	DOG
	Bacon Bap and Tea	628	507	\$1,972	\$3.89	43.7%	\$2.19	0.04%	PUZZLE
	Bacon Butty	D72	14,820	\$51,847	\$3.50	41.0%	\$2.07	1.11%	STAR
	Bacon Butty and Beer Combo	BC0	150	\$938	\$6.25	36.1%	\$4.00	0.01%	PUZZLE
	Bacon Butty IWM Staff	A93	253	\$369	\$1.46	67.0%	\$0.48	0.02%	DOG
	Bacon Butty PKS	244I	3,707	\$13,992	\$3.77	37.4%	\$2.36	0.28%	PUZZLE
	Bacon Rasher	F62I	67,153	\$35,339	\$0.53	72.3%	\$0.15	5.02%	HORSE
	Bagel	F92I	72	\$119	\$1.66	21.8%	\$1.30	0.01%	PUZZLE
	Bagel	429I	2,585	\$976	\$0.38	68.5%	\$0.12	0.19%	DOG
	Baked beans	764I	39,812	\$15,763	\$0.40	55.0%	\$0.18	2.98%	HORSE

Average Selling Price & Recipe Cost Trends

Easily see whether profits are moving in line with cost increases — and where costs are too high.



Waste Analysis Report

Track explained AND unexplained wastage by week, period or year.

Waste Analysis Report

	Last Week	Period to Date	Year to Date
Wastage	\$-31,174	\$-70,762	\$-654,467
Wastage % sales	-7.2%	-6.2%	-6.7%
Unexplained	\$11,636	\$48,224	\$113,603
Unexplained %	2.7%	4.2%	1.2%

Track wastage by cost and by percentage of sales.

See the trends in your unexplained waste.



Purchasing Analysis Chart

See at a glance the variance in sales vs. cost of purchase and drill down to see detail on each product and every supplier.

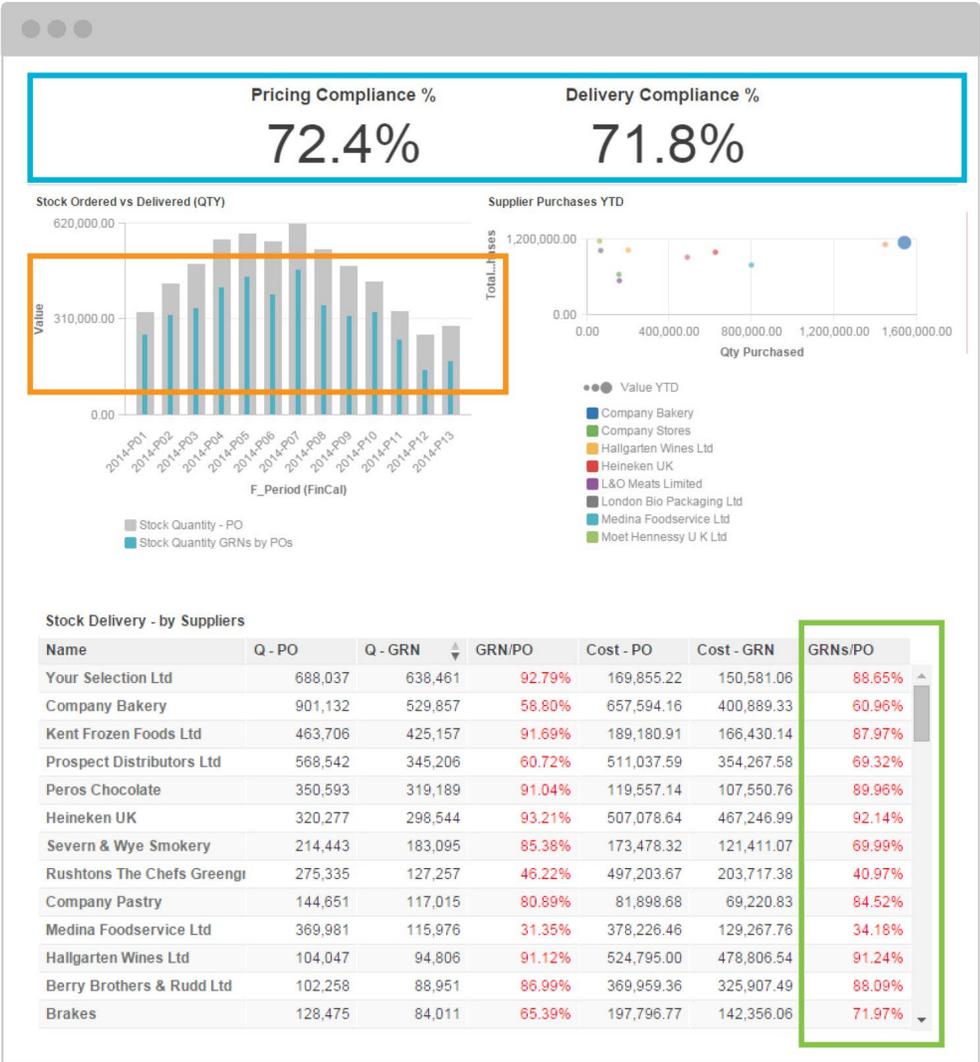


Purchasing Compliance Analysis

See your vendors' performance at a glance.

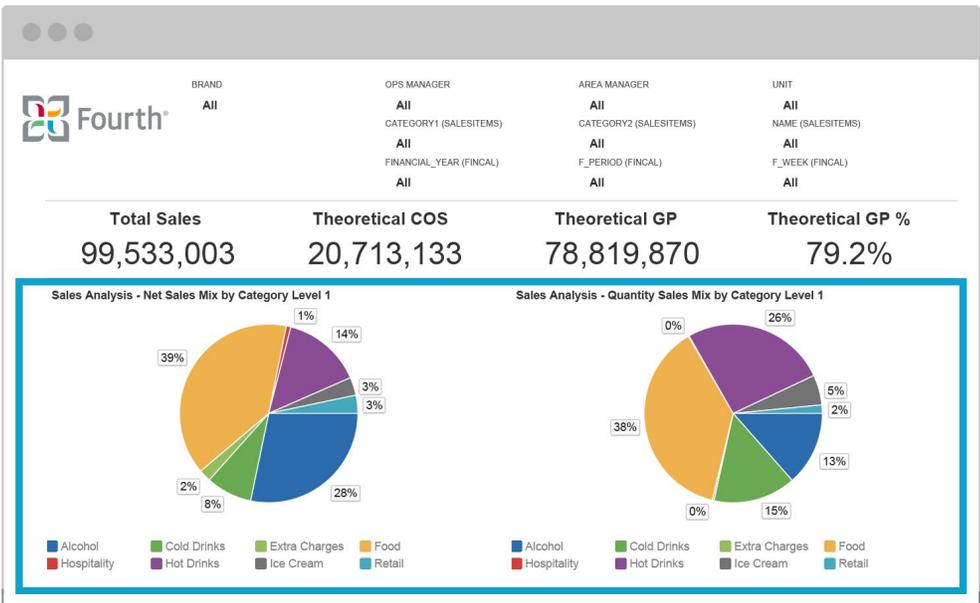
See stock ordered vs. deliveries.

See which suppliers are the best — and the worst — at getting it right.

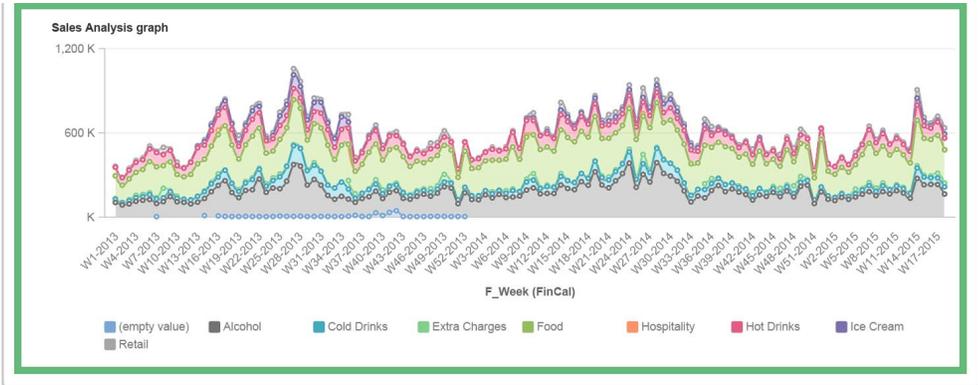


POS Sales Analysis

See your sales mix by revenue and by quantity.



Variations in product mix over time.



360° Employment Balanced Scorecard

See the employee's cost...

...versus the revenue they generate.

See their upsell performance...

...and customer satisfaction with them.

SERVER NAME
All
FINANCIAL_YEAR (FINCAL)
All

Lucy Clark
MEXICAN RESTAURANT 201

Employee ID 123778

Start date 2014-05-06

Status active

FINANCIAL

Contract type: HOURLY SALARIED

Avg. Pay Rate (hr) 7.41

Avg. Hrs worked (per week) 26.0

Revenue per Hour \$33.96

CUSTOMER

		VS. PEERS
# Coffees	290	140 ▲
# Starters	42	34 ▲
# Desserts	29	36 ▼

Avg. Service Time 26 mins 32 mins ▲

Spend per Head \$15.25 **Tips/ Gratuity** \$158.74

INTERNAL PROCESSES

GREEN Clock in/out (%) 48.7%

Void activity (vs peers) 102 (5%) 58 (3%)

Discount activity (vs peers) \$1098 (10%) \$256 (4%)

Absence days total (vs avg) 4.0 days 2.9 days

LEARNING & GROWTH

Los 182.0 days

Positions Held

- BAR ASSISTANT 60.0 days
- BAR SUPERVISOR 122.0 days

Training days 1.5 days

See further KPIs including their time & attendance, voids/discount activity & absences.

See key HR & Training stats by employee.

About Fourth

Fourth provides end-to-end, best-in-class technology and services for the restaurant and hospitality industries. Their supply chain, and workforce management solutions, coupled with the industry's most complete data and analytics suite, give operators the actionable insights they need to control costs, scale profitability, improve employee engagement, and maintain compliance. Since its merger with US-based HotSchedules, Fourth serves more than 7,000 customers across 120,000 locations globally.



Questions?

Give us a call at +1.877.539.5156

www.fourth.com