



MANAGING Wi-Fi FOR REVENUE AND COST OPTIMIZATION



CONTENTS

3	EXECUTIVE SUMMARY
4	THE EVOLUTION OF Wi-Fi
7	THE ROLE OF Wi-Fi IN 5G
10	MARKETING STRATEGIES WITH Wi-Fi
13	Wi-Fi ANALYTICS
15	Wi-Fi IN MULTI-LOCATION ENTERPRISES
17	THE CASE FOR MANAGED Wi-Fi
20	USE CASE #1: Wi-Fi IN RETAIL AND RESTAURANTS
23	USE CASE #2: Wi-Fi IN THE FINANCIAL SECTOR
24	USE CASE #3: Wi-Fi IN HEALTHCARE

EXECUTIVE SUMMARY

Wi-Fi has become king in the enterprise world. Regardless of the size of a business, the number of sites it operates, or the market it serves, businesses are relying on Wi-Fi as a foundation for the array of technologies they are using in their digital transformation. They are also realizing that Wi-Fi is a critical platform to engage with customers and empower employees.

There are those who claim that with the emergence of 5G, Wi-Fi's days are numbered. We strongly disagree and make the case that Wi-Fi will continue to dominate the indoor technology environment and leverage its formidable footprint and ecosystem. We believe it is use cases that dictate technology use, not the other way around. One of the main contributing factors to growing traffic is consumer video use. And the main solution to meet the requirements of the increasing demand for bandwidth has long been by leveraging Wi-Fi networks, which enables operators to scale capacity to meet their subscribers' needs.

Globally, the February 2019 Cisco VNI Index shows that overall mobile data traffic, which was of 12 exabytes per month in 2016, is expected to grow to 77 exabytes per month by 2022, a seven-fold increase over this period. In parallel, the global number of mobile devices was 7.9 billion in 2016 and is forecast to reach 12.3 billion by 2022. Given these numbers and forecasts and knowing that the percentage of wireless traffic running on Wi-Fi is between 60% and 80%, depending on the operator and the region, one can understand not only the current footprint Wi-Fi has, but the fundamentals of growth for this global technology.

Wi-Fi is also not resting on its laurels, as showcased by the introduction of the latest Wi-Fi 6 standard which promises to deliver greater spectrum efficiency and is optimized to serve high density environments and IoT. Wi-Fi is evolving quickly and will be an integral part of the 5G vision.

In this paper, we make the case that Wi-Fi offers businesses a wealth of possibilities to become more productive and efficient, while empowering their employees and engaging more deeply with their clients and stakeholders. We discuss the trends in guest and private Wi-Fi and the variety of marketing tactics that can be used to better engage with visitors and customers towards greater monetization. Initiatives enabled by guest and private Wi-Fi include complimentary tasks such as real-time marketing offers, managing inventory and optimizing pricing. In this paper, we dive into specific verticals that have embraced the use of Wi-Fi to engage with their stakeholders, including retail and restaurants, financial institutions, and healthcare entities.

We also demonstrate that not only is Wi-Fi at the core of each enterprise today, but that it makes sense for these businesses to outsource the management of their Wi-Fi infrastructure to a trusted Managed Service Provider (MSP) to focus their talent and energy on their core business. In doing so, enterprises—especially those that are highly distributed throughout multiple locations—can benefit from large economies of scale, less downtime, and more peace of mind from relying on a partner that will deal with all the headaches involved in managing, maintaining, and updating increasingly complex Wi-Fi networks.

THE EVOLUTION OF Wi-Fi



Wi-Fi has become an integral part of every enterprise. Employees use it for an ever-growing number of applications and devices, from mobile devices to connected printers. Wi-Fi has also become part of how enterprises interact with guests, visitors, customers, and employees, and is expected to be available, secure, and seamless.

However, in some ways, Wi-Fi has become a victim of its own success. Indeed, the massive adoption of mobile devices in the enterprise, the popularity of BYOD (bring your own device), and the emergence of IoT, are all exerting great pressure on wireless networks, and as a result, IT staff are having a hard time coping with the strain.

Moreover, the trend is not showing any signs of slowing down. According to IDC, by 2020 there could be 30 billion connected devices; by 2025, that number is expected to reach 80 billion. And enterprises represent a large portion of these deployments. Thankfully, Wi-Fi technology is also evolving to meet the increased demand, and 2018 has been a transformational year for Wi-Fi as shown in the figure below.

EVOLUTION OF WI-FI STANDARDS TO 802.11 AX

	802.11	802.11b	802.11a	802.11g	802.11n	802.11ac	802.11ax
	(Legacy)	(Legacy)	(Legacy)	(Legacy)	(HT)	(VHT)	(HE)
Year Ratified	1997	1999	1999	2003	2009	2014	2019 (Expected)
Operating Band	2.4GHz/IR	2.4GHz	5 GHz	2.4GHz	2.4/5 GHz	5GHz	2.3/5 GHz
Channel BW	20 MHz	20 MHz	20 MHz	20 MHz	20/40 MHz	20/40/80/160 MHz	20/40/80/160 MHz
Peak PHY Rate	2 Mbps	11 Mbps	54 Mbps	54 Mbps	600 Mbps	6.8 Gbps	10 Gbps
Modulation	DSSS, FHSS	DSSS, CCK	OFDM	OFDM	OFDM	OFDM	OFDM, OFDMA

Source: Maravedis

Indeed, with the introduction of 802.11 ax (which will be increasingly known by its trade name “Wi-Fi 6” as labeled by the Wi-Fi Alliance since October 2018), Wi-Fi is addressing the issue of efficiency instead of throughput for the first time. The standard—also known as “High Efficiency Wireless” (HEW)—is aimed at better utilizing the valuable spectrum resource. Each Wi-Fi channel is divided into smaller sub-channels known as “Resource Units” (RU). The access point (AP) decides how to allocate the sub-channels, as each individual RU (or sub-channel) can be addressed to different clients that are served simultaneously. This technique in turn, improves the average throughput (per user) by creating a dedicated sub-channel.

The new standard introduces the use of orthogonal frequency-division multiple access (OFDMA) and multi-user multiple-in multiple-out (MU-MIMO), which are both techniques that increase reliability and efficiency of unlicensed Wi-Fi spectrum. In contrast to previous generations of Wi-Fi, OFDMA enables Wi-Fi to become deterministic, as devices consistently receive more attention with minimal contention. This helps stabilize Wi-Fi performance, especially in higher density environments. Thus, OFDMA reduces latency while supporting heterogeneous users.

Moreover, advances in the management and control planes enable IT to partition Wi-Fi access to different stakeholders’ employees, guests, and contractors with tiered levels of access and privileges.

Wi-Fi has moved beyond connectivity, and is now used to engage, reward, and inform visitors through personalized applications and targeted marketing. Wi-Fi has become the platform for creating innovative ways of interacting with users, improving their experience with the organization they visit, and generating new business. Simply providing a Wi-Fi network for the organization, users, and guests is not enough. The network must be a secure and reliable connection that can scale to support a wide range of new applications, devices, and use cases.

Wi-Fi WORLDWIDE STATISTICS AND FORECASTS



Source: Wireless Broadband Alliance

THE ROLE OF Wi-Fi IN 5G

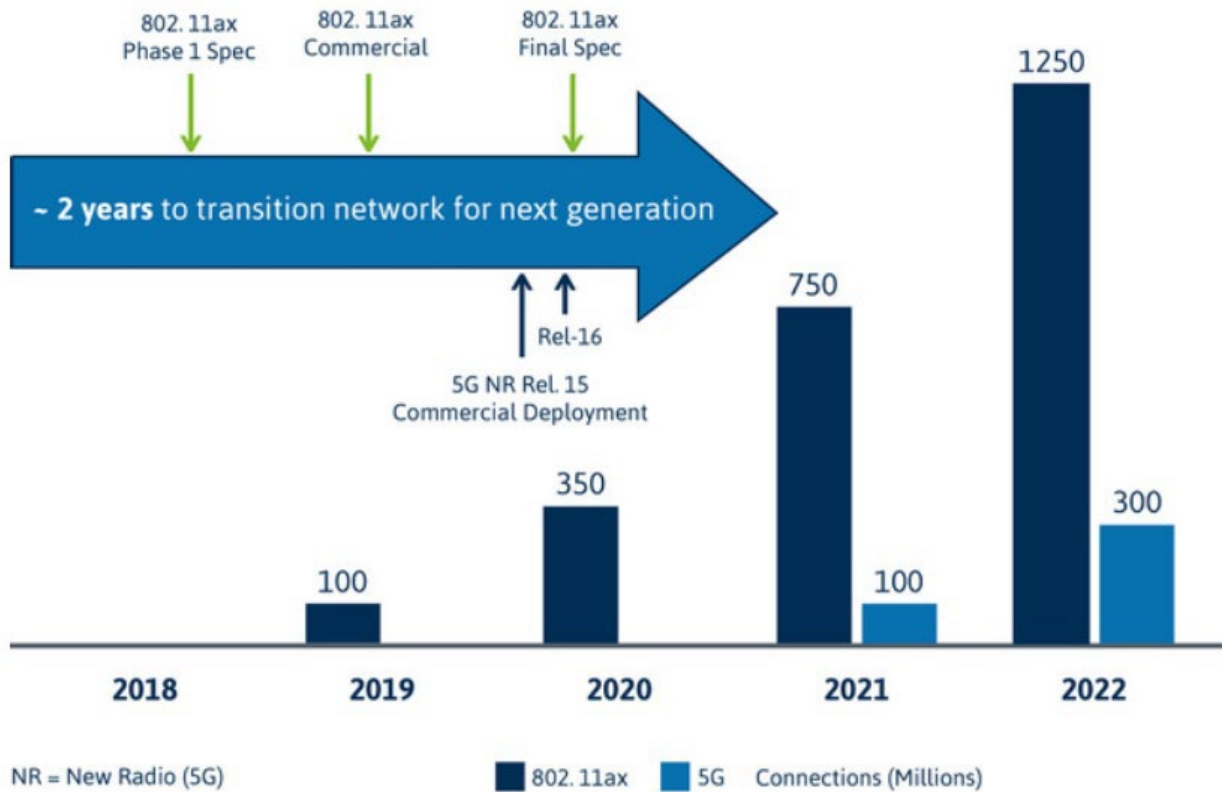


Unlike previous generations, unlicensed spectrum technologies will play a major role in 5G. There are two main definitions of 5G. The first is a narrower one: a set of radio specifications defined by 3GPP, which will form the basis of official 5G standards for the 5G new radio (NR). The second one is broader where 5G is defined as being a far more expansive platform, encompassing multiple radio access technologies (RATs), integrating with wireline connections and supported by new network architectures built on virtualization and software-defined networking (SDN).

As such, 5G will build on technologies and architectures which have been evolving in the unlicensed spectrum world, especially in Wi-Fi, as much as in cellular. Some of the key enablers of 5G networks have been pioneered in the Wi-Fi community, such as the millimeter wave spectrum (WiGig in 60 GHz) and dense virtualized networks (carrier or enterprise Wi-Fi networks built around centralized, software-based controllers).

While cellular-based 5G will support unlicensed LTE (MulleFire) and shared spectrum (such as CBRS), Wi-Fi has been moving in the other direction, taking on many of the characteristics of cellular technologies such as enhanced quality of service, security, and other features. As the lines between licensed and unlicensed spectrum blur, Wi-Fi will evolve alongside cellular to be part of the broader 5G platform, bringing 5G-like capabilities to non-spectrum owners, such as large venues and private network providers. As the figure below indicates, the gap between Wi-Fi and 5G technologies is narrowing with both technologies targeting low-latency use cases, such as industrial automation and private networks that benefit from distributed architectures, edge computing, and network slicing.

802.11AX AND 5G STANDARDIZATION AND ADOPTION TIMELINE



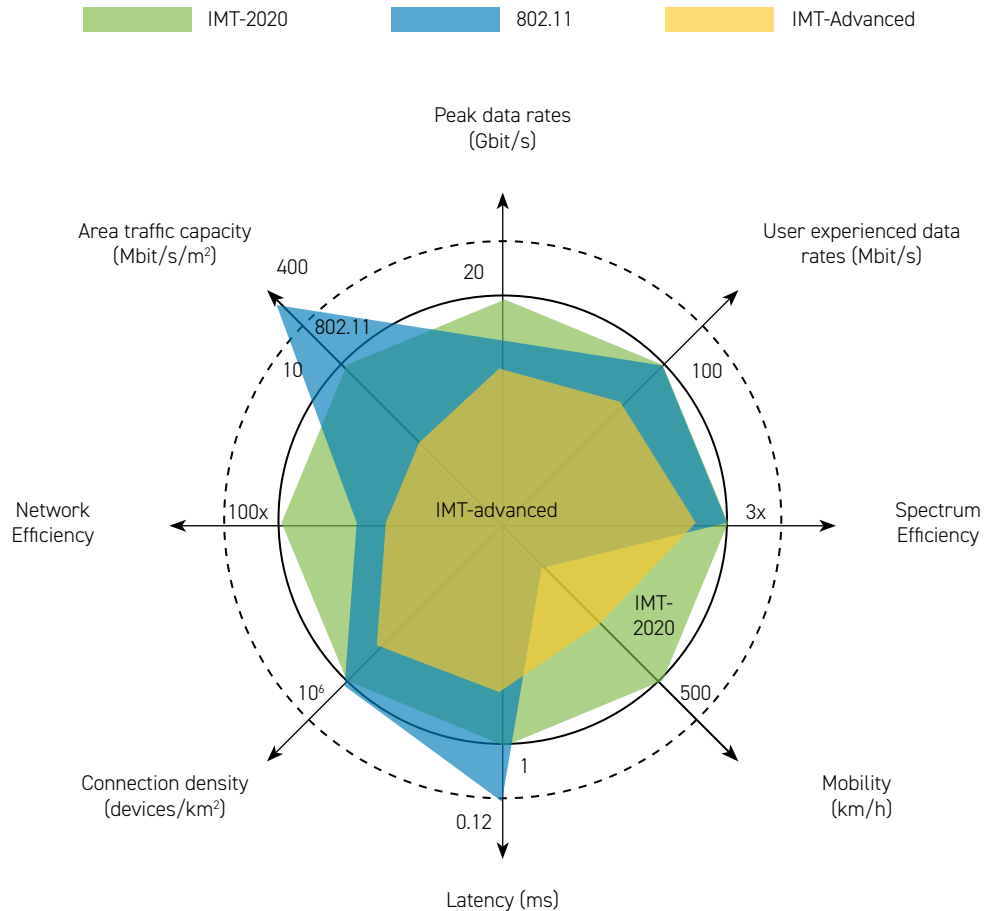
Source: Wireless Broadband Alliance

The broad ecosystem of enterprise devices, equipment, and software that utilize Wi-Fi will help to reach these critical requirements more quickly than using cellular alone, especially for indoor usage. To understand what role Wi-Fi can play in the 5G platform, the best thing to do is to look at what Wi-Fi is great at.

The Wireless Broadband Alliance (WBA) has identified areas where 802.11 technologies outperform the base requirements for IMT-2020 (5G), and ones where future work will be needed to bring Wi-Fi into line with 5G cellular. Wi-Fi can outperform the IMT-2020 requirements related to area traffic capacity and latency. But while network efficiency values are above those associated with IMT-Advanced, they do not meet the target requirements for IMT-2020.

This is summarized in the figure below, with each technology having its own strengths and weaknesses.

ENHANCED 802.11 CAPABILITIES COMPARED TO THOSE OF IMT-2020 AND IMT-ADVANCED



Source: Wireless Broadband Alliance

For indoor applications in the enterprise, data rates, latency, density, and throughput are more relevant than mobility, and there is little justification to use cellular-like technology inside the enterprise, at least not for data applications. DAS or macro base station repeaters are often used to provide voice coverage (often deficient indoors), but those are expensive propositions. Therefore, voice over Wi-Fi or Wi-Fi calling is increasingly used to service this need.

Wi-Fi has a role to play in the 5G vision, one that leverages its formidable existing indoor footprint and ecosystem. But it cannot get too comfortable, as new LTE-based technologies will increasingly compete for a share of usage in the unlicensed spectrums.

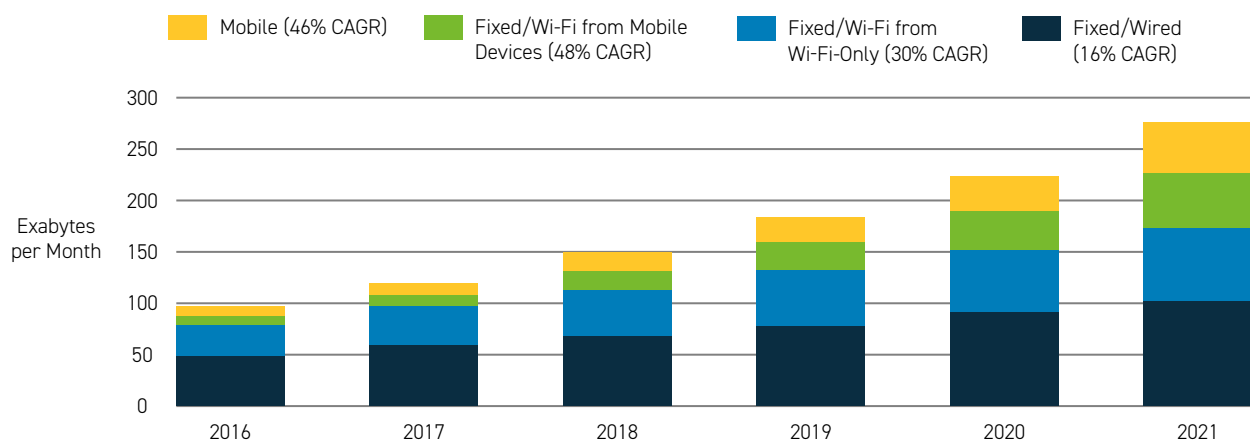
MARKETING STRATEGIES WITH Wi-Fi



End users expect an optimal and consistent connection wherever they are, at all times. Given that users spend eighty percent of their time indoors—either at home or in the office—this dwell time is very much dominated by Wi-Fi. Attraction, conversion, and engagement are now the three most important things in sectors such as restaurants, cafés, retail, hospitality, and financial services.

In fact, Wi-Fi now carries half of all mobile data as shown in the 2017 Cisco VNI model and Maravedis projections shown below:

MOBILE DATA TRAFFIC BY TECHNOLOGY



Source: Cisco VNI Mobile, 2017

Enterprises with physical locations can better engage with customers and generate more sales if they offer guest Wi-Fi with value-added marketing applications. On the other hand, enterprises also must support BYOD (bring your own device) for both employees and visitors, in order to keep them productive and satisfied respectively.

For example, Wi-Fi has become the number one amenity sought by hotel guests and is a vital criterion in hotel selection. At the same time, businesses use Wi-Fi to harvest valuable data on their customers' journey, which they then use to achieve marketing, sales, and operational objectives.

Shoppers also expect to be able to use their mobile devices while in a store to compare prices, use coupons, as well as browse customer product reviews and features as part of their retail experience. In addition, the more shoppers who use Wi-Fi while in a store, the more data and analytics can be collected. These analytics can be used to improve brick-and-mortar retailers' competitiveness against online giants such as Amazon.

The sectors briefly overviewed above are just some examples of the areas where Wi-Fi is having a significant and growing impact on business success.

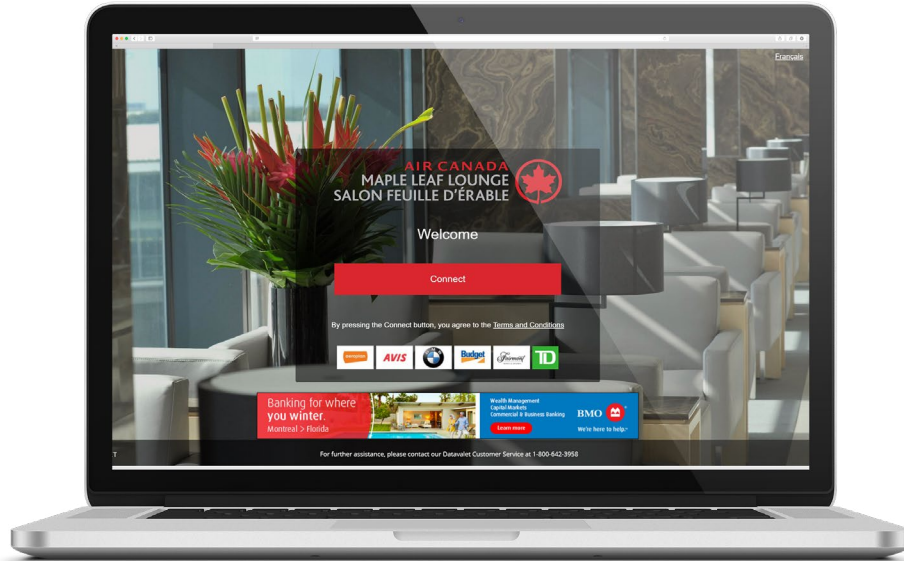
MARKETING & ENGAGEMENT

To gain better visibility on their guests and manage Wi-Fi session parameters, businesses use a captive portal. A captive portal is a web page that the user of a public-access network is, more than often, obliged to view and interact with before web access is granted. Captive portals are typically used by business centers, airports, hotel lobbies, coffee shops, and other venues that offer free or paid Wi-Fi hot spots for Internet users. As the below image shows, a captive portal requires the use of some form of policy control in the back end to collect user information and authorize—or not—access. This authentication process can be performed through a variety of means such as:

- email
- social media
- credit card payment
- loyalty programs
- third-party databases
- 802.1x (EAP-TTLS, EAP-TLS)
- OAuth
- LDAP
- and more...

Each individual business can decide how to grant access to the Wi-Fi network to their visitors, either free for a limited amount of time (in exchange for contact information), agreement to the terms and conditions, or simply charging money for access.

EXAMPLE OF A CAPTIVE PORTAL



Source: Datavalet

With the right Wi-Fi management platform, a business can put in place policies for:

- Session Management (including speed caps, data usage, duration, content filtering)
- Display company or third-party ads on the captive portal
- Display landing pages to drive promotions while seamlessly generating revenues

For example, Tim Hortons in the USA and Starbucks in Canada have implemented Datavalet's Wi-Fi solution not only to give their clients a fast and secured Internet access, but also to enhance their clients' experience while on-site.

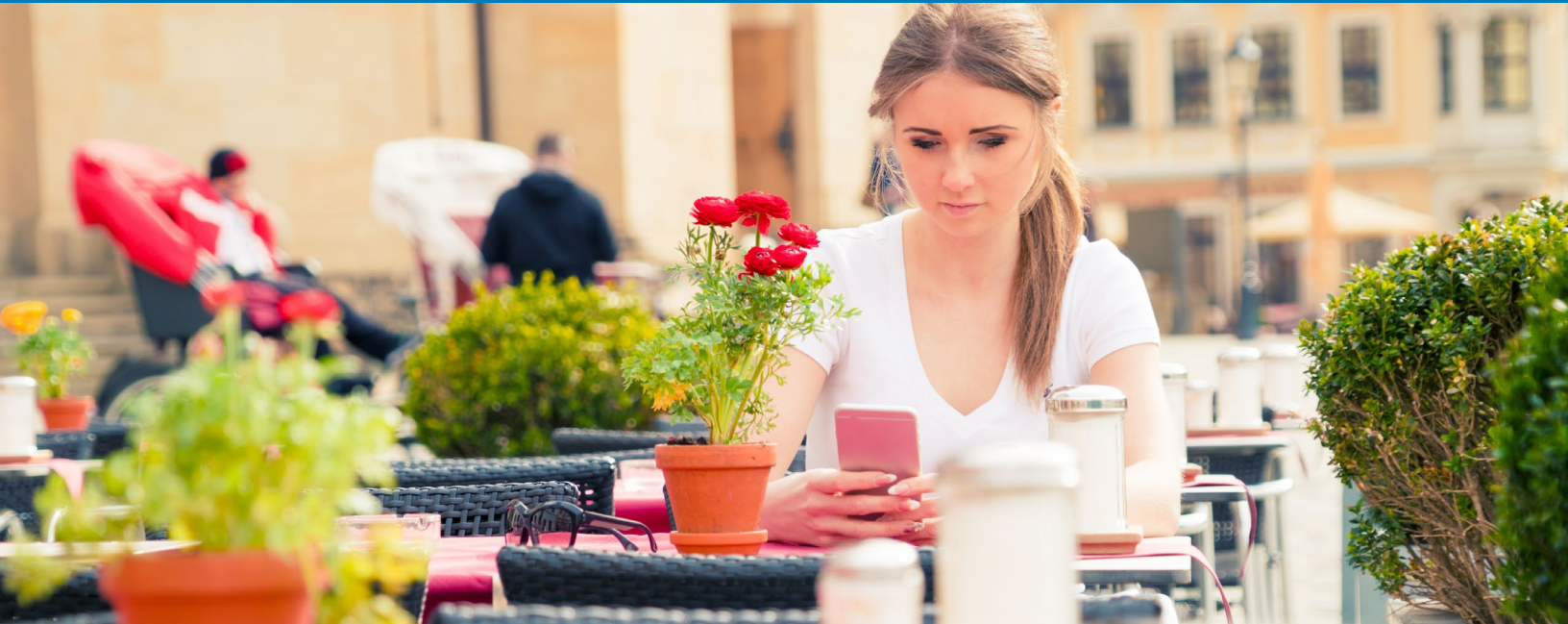
Depending on which solution is implemented and what device and operating system is used, basic captive portals may have limited functionalities, such as:

- It cannot save cookies
- It cannot launch new tabs or other browser windows
- It cannot display `window.alert()` or `window.confirm()` JavaScript popups
- It cannot be resized

Thus, enterprises need to ensure they provide a consistent user experience across devices, operating systems, and software versions.

Many of the new capabilities currently incorporated into enterprise networks not only support end user services, but also generate large amounts of data about the habits and preferences of customers, staff, and "things" (such as sensors). For data to become the "new oil", it must be useful and actionable with proper analytics tools which we will look at in the next section.

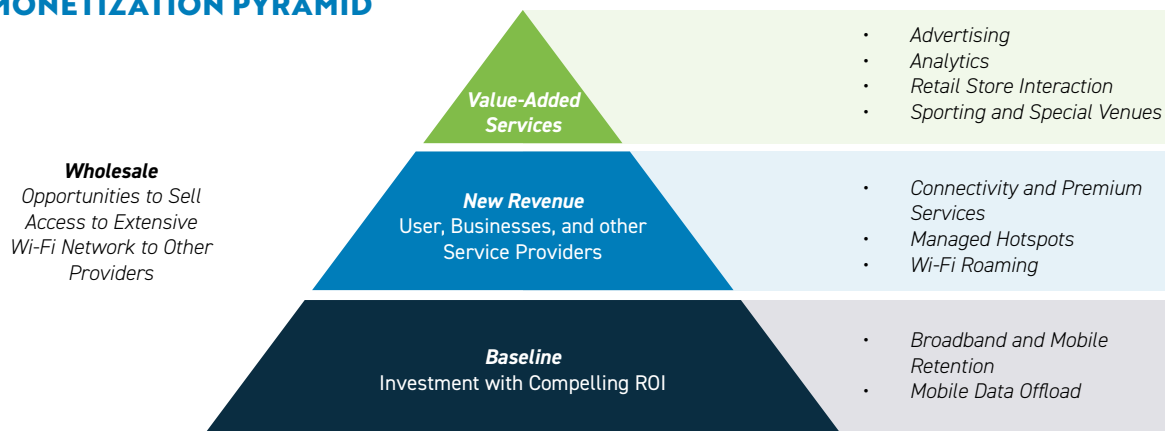
Wi-Fi ANALYTICS



Guest Wi-Fi provides brands with a rich supply of valuable data which can be used by businesses to better target their own clients.

This data can enable more precisely targeted, relevant, and personalized content or adverts—increasing satisfaction and response rate—and can be fed into marketing automation systems, CRM, and analytics engines. Big Data is one of the biggest potential opportunities for brands and enterprises, as improved engines emerge to help them harness all this information. It is also an activity which is reliant upon Wi-Fi where individual users can be identified and followed, with integration to back office databases and applications such as customer experience management (CEM). Accordingly, Cisco places Big Data at the top of its Wi-Fi monetization pyramid:

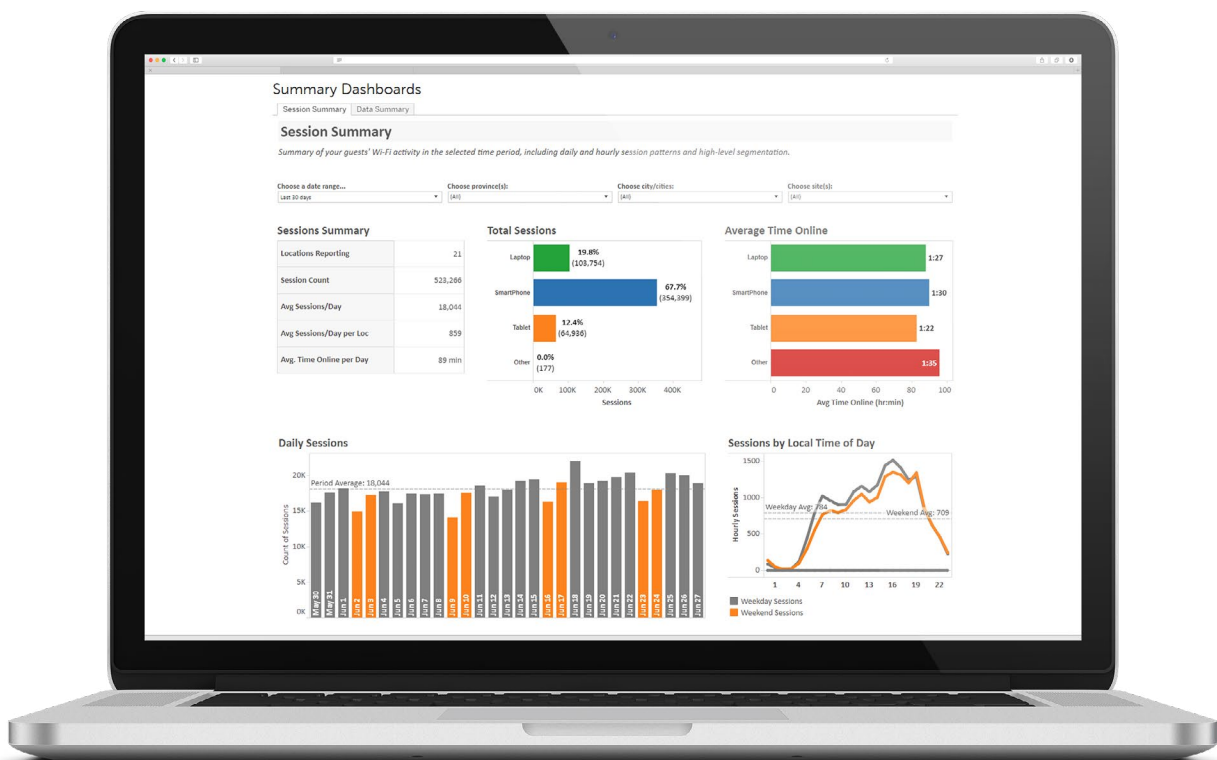
Wi-Fi MONETIZATION PYRAMID



Data can take different forms and be used differently according to each business need:

- **Raw Data Feed:** Enterprises can gather Wi-Fi user data from policies defined and redirect this raw data to a database, CRM, and marketing system, to extract the most relevant insights.
- **Visitor Notification:** A visitor notification engine recognizes and tracks customer visit behavior while providing visitor analytics over time. Based on customizable rules, a brand can notify on-site, corporate, or marketing staff to trigger various engagement activities.
- **Actionable Data Feed:** A brand can collect data from Wi-Fi-based surveys and feedback campaigns that generate actionable insights which can be integrated into sales and marketing platforms.
- **Campaign Management:** Leveraging the visitor notification engine, a module can go one step further by automatically pushing customer engagement activities such as real-time campaigns, surveys, promotions, rewards, and win-back programs, as well as campaign analytics.

EXAMPLE OF A WI-FI ANALYTICS DASHBOARD



Source: Datavalet

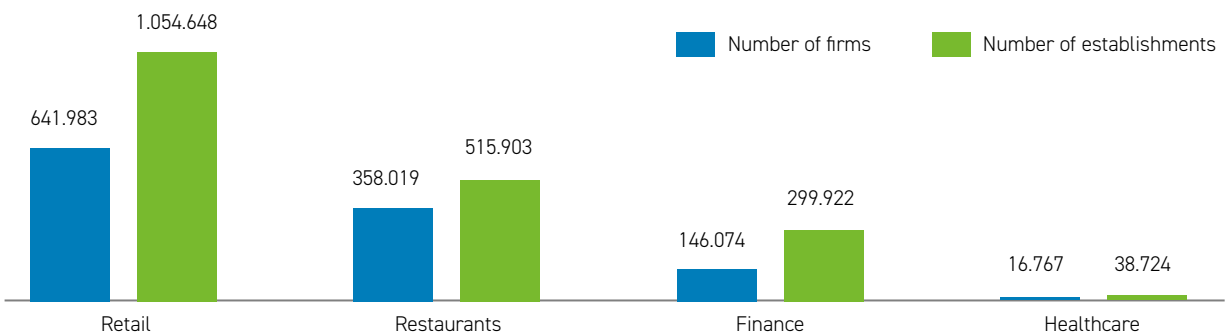
Wi-Fi IN MULTI-LOCATION ENTERPRISES



The modern multi-location business often consists of a central location where IT staff and operations are located and remote, “edge” sites with minimal or no IT staff. It is common for edge sites—such as bank branches, fast food locations, or retail outlets—to be located quite far from head office, complicating travel for internal support staff. These remote edge sites have IT needs, but on a smaller scale than a central site, which does not justify cost around similar infrastructure or onsite IT staff.

The following figure presents the statistics on the number of firms and their respective number of establishments¹ in select industries which typically operate in a multi-site configuration:

DISTRIBUTED ENTERPRISES IN SELECT SECTORS USA



Source: US Census Economic Data 2012

¹ The US Census defines “establishments” as physical locations.

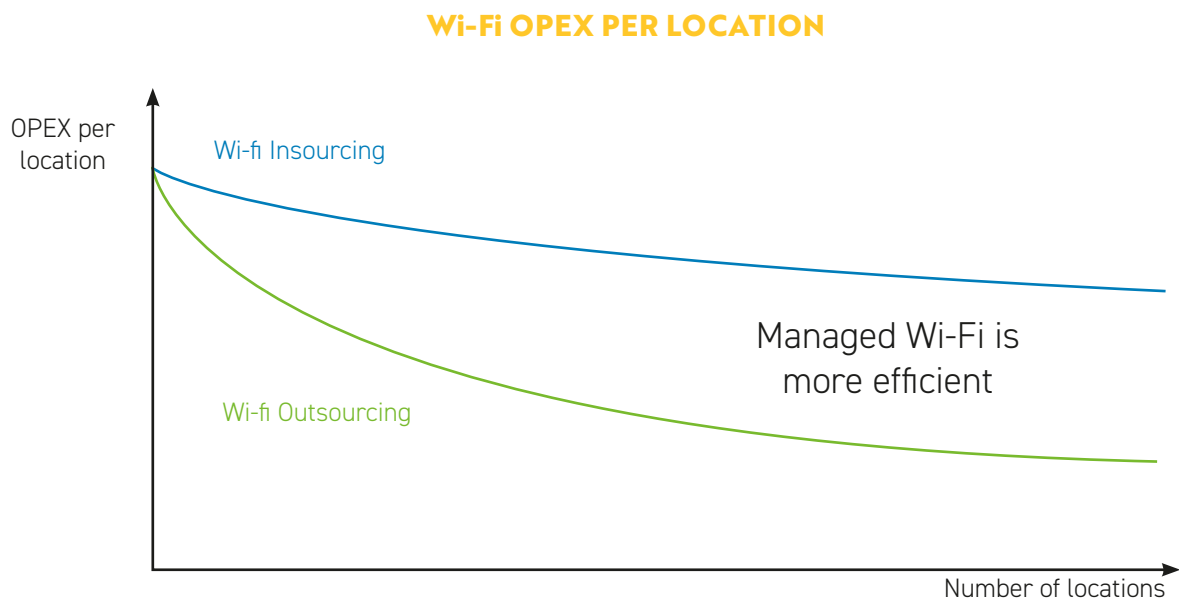
This poses unique challenges to the distributed enterprises on how to best serve remote site Wi-Fi and IT needs at a reasonable cost.

Wi-Fi infrastructure may consist of some or all the following elements:

- Access points, repeaters, extenders
- Gateway(s)
- Controller(s)
- Firewall(s)
- Switch(es)
- Cables, Racks, A/C, etc.

If an enterprise has hundreds or thousands of sites, then managing the corresponding number of networks, staff, and parts quickly becomes a nightmare that is both expensive and often remote to the enterprise core expertise.

The more locations a distributed enterprise has, the more economic sense it makes to resort to a managed Wi-Fi service because the cost of servicing a widespread wireless infrastructure would be counterproductive. Indeed, it would be too expensive to maintain an equipment inventory or a fully-trained staff at each location, and the cost of moving them around hundreds or thousands of locations is prohibitive. Conversely, a centralized Managed Service Provider (MSP) can enjoy economies of scale across several of its customers in the same area as shown in the graph below:



Source: Datavalet

MSPs can help those distributed enterprises meet their IT goals while controlling their costs, by centralizing the management of hundreds or thousands of sites and leveraging relationships with ISPs, subcontractors, and equipment vendors, thus gaining economies of scale from managing multiple clients. We will explore this in more detail in the next section.

THE CASE FOR MANAGED Wi-Fi



Managing Wi-Fi infrastructure properly requires a great deal of technical resources that could be used elsewhere in the organization. IT staff must stay on top of fast-evolving Wi-Fi industry standards, best practices, and ever-changing security threats. They must also stay up-to-date with infrastructure vendors' software updates, firmware patches, and learn new applications and features in order to protect the current infrastructure investment. IT staff must manage the lifecycle of their infrastructure, consider what to do with legacy technology which may be slowing down the network, and plan the introduction of the latest standards such as 802.11ax.

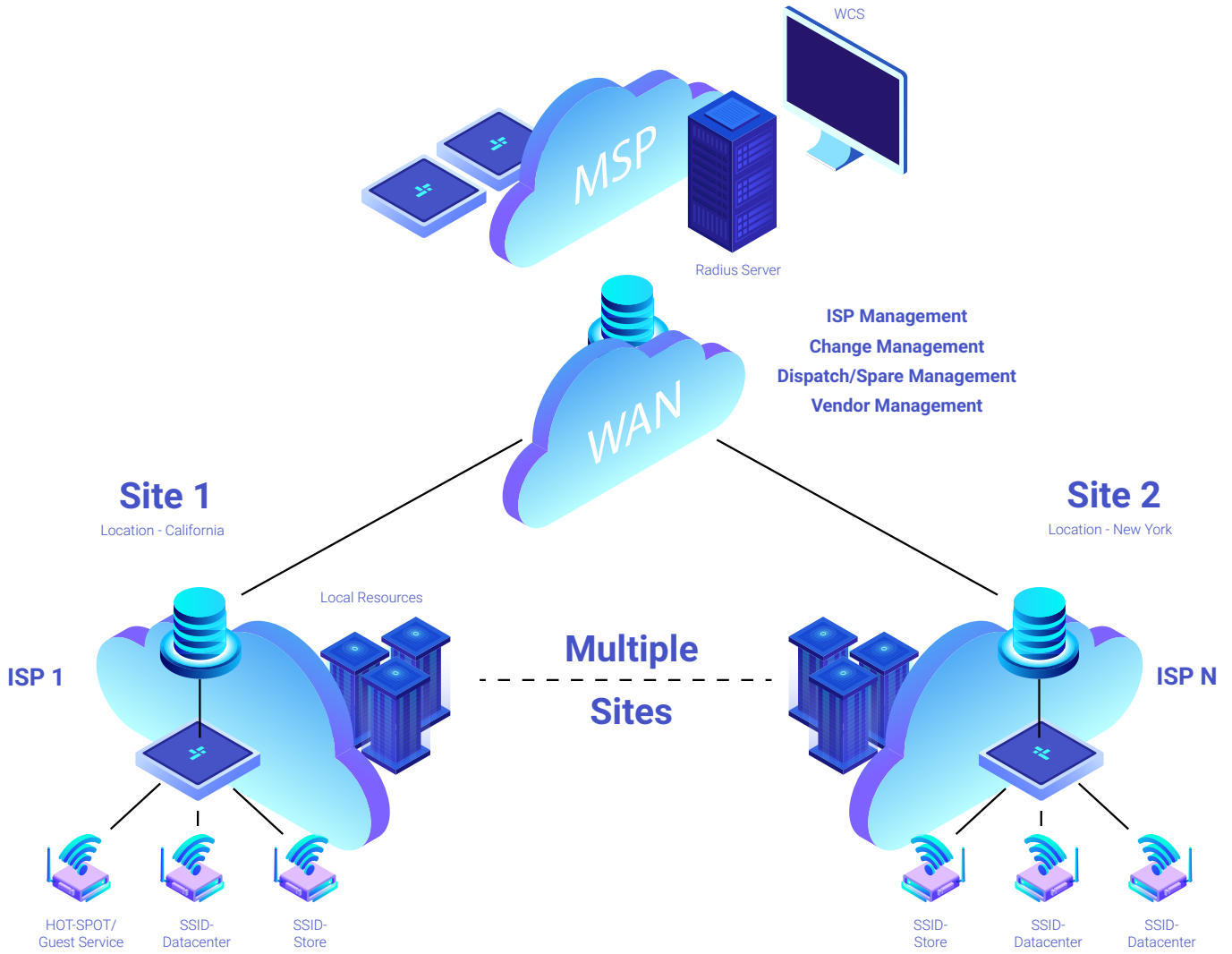
With so many tasks to perform, understaffed IT departments may end up overwhelmed and unable to provide the level of support required to maintain a well-performing Wi-Fi network. In such a case, resorting to Managed Service Providers (MSPs) makes good business sense.

MSPs are entities that provide IT services that manage and assume responsibility for providing a defined set of services to its clients, including managing the Wi-Fi network.

"Wi-Fi Management is associated with designing, implementing, configuring, monitoring, supporting, and maintaining the end state of a given Wi-Fi environment." Robert Soussa—Managing Partner, Business Development, Datavalet.

As the figure below shows, MSPs must manage many parts and complexity on behalf of their clients. The more sites and pieces in the network, the more value customers can reap from their MSPs, resulting in lower capex, Opex, and additional revenues from marketing and engagement activities.

WI-FI NETWORK MANAGEMENT IN A MULTI-SITE ENTERPRISE



Source: Datavalet

Enterprises that decide to outsource the management of their Wi-Fi infrastructure to a trusted MSP can benefit from the following:

EXAMPLES OF BENEFITS WHEN OUTSOURCING WI-FI TO AN MSP

Category	Action Performed by MSP	How It Is Done by MSP	Benefit(s)
ISP Management	Support Ticket System across multiple ISPs.	Engages with ISP, coordinates and follows up until issue is resolved.	Saves time.
	Manage coordination across multiple ISPs.	Becomes a central contact in case multiple ISPs are involved across various site locations.	Simplifies process.
	Troubleshoot faster.	Experts can hold ISPs accountable for network performance. Scale also allows them to have a regional view of outages and network performance.	Saves time.
Change Management	Manage software changes.	Tests are performed for vendor firmware upgrades to ensure compliance with customer needs.	Reduces downtime.
		Ensures changes have minimal impact on the business.	Saves time.
Dispatch/Spare Management	Manage onsite troubleshooting.	Provides guidance to field technicians.	Saves time.
		Negotiates better pricing and terms with local sub-contractors, including for spares.	Reduces opex.
		Leverages a nationwide dispatching system for economies of scale.	Reduces opex.
		Cheaper and faster depot model for RMAs.	Faster fixes.
		Manages all the logistics and inventory for client.	Simplifies process.
Vendor Management	Manage relationships and roadmap with vendors.	Leverages volume and expertise to deal with vendors and fix issues when they arise.	Saves time.
		Expertise accumulated across vendors and diverse client networks is replicated proactively to other clients.	Saves time.
		Tracks vendors' upcoming changes.	Simplifies process.

Source: Datavalet

With the expectations today that Wi-Fi should always be available, cost-effective, secure, and simple to use, the adoption of the "outsourced utility model" for managed Wi-Fi may represent the easiest path for enterprises to grow and leverage their WLAN networks without spending time worrying about (and dealing with) the details.

As we will see in the upcoming sections, monetizing and outsourcing management Wi-Fi can offer a great deal of benefits to a great variety of verticals, both in terms of revenue increase and cost reduction.

USE CASE #1: WI-FI IN RETAIL AND RESTAURANTS

Retail and restaurants are the most dynamic and promising verticals for wireless technologies and Wi-Fi. The entire concept of the omnichannel experience aims at creating a consistent journey for the consumer throughout a more personalized shopping experience.

In retail, the ease and convenience of online shopping has changed consumer expectations for brick-and-mortar stores. Physical stores remain a critical part of the purchase journey, as customers can see, touch, and try out merchandise without having to wait for products to be shipped and often enjoy the physical shopping experience. Today, in-store shoppers are using mobile devices to compare prices, research products, and access social media. Accordingly, retailers are starting to realize that their customers want to get connected, and that allowing them to do so can help further enhance their shopping experience.

To satisfy this demand, retailers are now providing free and secure in-store internet access. With so much in-store mobile usage, retailers want to make it as easy as possible for their shoppers to connect to guest Wi-Fi. They also incentivize shoppers through loyalty programs and real-time promotions, as well as keeping mobile websites updated with current product information and offers. Surprisingly, a majority of retailers are not up-to date with their technology infrastructure, but plan to make major updates in the next two years as shown in the figure below, which highlights their need for assistance from an MSP:

STATUS OF IN-STORE TECHNOLOGY PLANS

	Up-to-date technology in place	Started but not finished major upgrade	Will start upgrade within 12 months	Will start upgrade within 12-24 months	No Plans
WiFi for customers	39%	17%	13%	8%	22%
Mobile devices for associates/manager	25%	22%	18%	18%	17%
In-store shipping	24%	13%	12%	11%	39%
In-store pickup/return of web goods	23%	22%	18%	10%	27%
Real-time store monitoring/KPIs	19%	16%	19%	13%	33%
Digital devices (signage, kiosks, magic mirrors, etc.)	17%	18%	15%	18%	33%
Shopper tracking capability	16%	10%	13%	19%	42%
Location-based sensing for marketing/communication	10%	10%	14%	25%	40%
Clienteling/guided selling	9%	10%	17%	19%	44%
Item-level RFID	9%	3%	6%	8%	74%
In-store video analytics	8%	7%	6%	16%	64%
Electronic shelf labels	2%	5%	3%	17%	73%

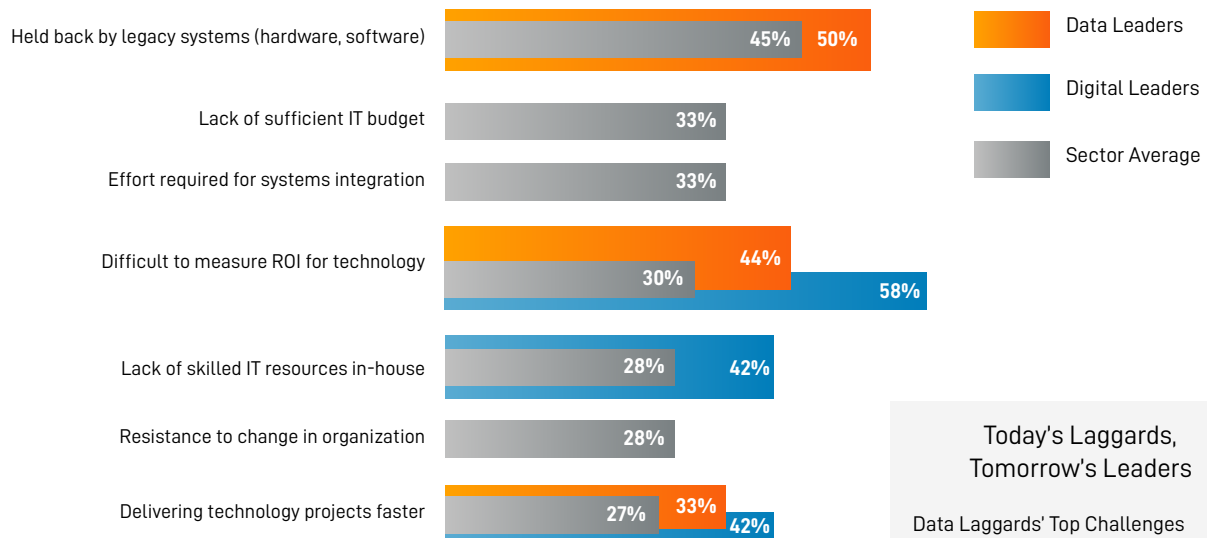
Source: 28th Annual Retail Technology Study, Retail Info Systems/Gartner

Retailers are increasingly realizing that analytics can empower them to understand what inspires consumers to act. This understanding drives loyalty, and ultimately provides them with a competitive advantage.

With over 90% of sales still occurring in physical locations, retailers remain central to the success of global retail. The rise of sophisticated omnichannel retail strategies has demonstrated that brick-and-mortar stores are an integral part of the consumer experience as well as remain relevant, and guest Wi-Fi is the bridge that connects the physical and digital worlds.

In the restaurants and cafés category—similarly to hotels—offering amenity Wi-Fi has become a necessity and is expected by guests, especially in chains and fast food cafés and restaurants (Quick Service Restaurants, or “QSR”) who are the category leaders in deploying Wi-Fi. In fact, lack of skilled in-house IT resources is one of the major challenges for restaurant IT teams as shown in the 2018 Restaurant Technology Study:

TOP GLITCHES FACING TECHNOLOGY TEAMS



Today's Laggards, Tomorrow's Leaders

Data Laggards' Top Challenges

1. Maintaining legacy systems 38%
2. Insufficient budgets 38%
3. Resistance to change in the organization 38%

Digital Laggards' Top Challenges

1. Maintaining legacy systems 44%
2. Insufficient budgets 44%
3. Effort required for systems integration 41%

Source: Hospitality Technology Study 2018

This makes the case for restaurants to increasingly outsource aspects of their technology, including Wi-Fi to their trusted MSP.

BENEFITS OF MANAGED WI-FI IN RETAIL AND RESTAURANTS

Customers	Staff	Business Owners
<ul style="list-style-type: none">• Stay connected, informed, and entertained• Receive personalized information• Receive targeted offers• Provide timely feedback	<ul style="list-style-type: none">• Access customer records• Track customer visits• Access inventory data• Check ongoing promotions• Communicate with other staff	<ul style="list-style-type: none">• Send targeted offers• Optimize pricing and inventory• Understand purchasing patterns and behaviors• Enhance security• Enhance client satisfaction

Source: Datavalet

BENEFITS OF MANAGED WI-FI

Retail and restaurants are not equipped with IT resources to deal with the large number of Wi-Fi users' requests and rapid evolution. The diversity and proliferation of devices, range of operating systems, security threats, new business requirements, technology lifecycle, and upcoming IoT all represent a challenge for understaffed and budget-stretched IT departments. In particular, large chains of retail stores and restaurants are increasingly resorting to outsourcing the complete management of their Wi-Fi access and infrastructure to MSPs in order to refocus their attention on managing their core business and enjoy great economies of scale.

USE CASE #2: Wi-Fi IN THE FINANCIAL SECTOR

With the proliferation of smartphones, banks and insurance branches and offices are finally opening up to using technology to meet the needs of their connected clients, prospects, and employees. Banks and financial institutions have been conservative and cautious about adopting technologies that can potentially expose their secure systems due to the sensitive nature of their business.

Today however, banks and other financial institutions are starting to embrace the use of Wi-Fi for both engaging with their prospects and customers, as well as empowering their staff and enabling the digital branch, without having to worry about compromising on the security of their systems and specificities.

For clients, visitors, and guests, managed guest Wi-Fi provides the following benefits and use cases:

BENEFITS OF MANAGED GUEST AND PRIVATE Wi-Fi IN THE FINANCIAL SECTOR

Customers	Staff	Contractors	Institutions
<ul style="list-style-type: none">• Stay connected, informed, and entertained• Receive personalized information• Receive targeted offers• Apply for services• Provide timely feedback	<ul style="list-style-type: none">• Access customer records• Track customer visits• Communicate with other staff• Access institution central system	<ul style="list-style-type: none">• Stay connected and informed• Improve overall experience and productivity	<ul style="list-style-type: none">• Send targeted offers• Learn about customer visits (analytics)• Greater security• Greater staff productivity• Less down time• Less CAPEX and OPEX

Source: Datavalet

BENEFITS OF MANAGED Wi-Fi

It makes sense for large distributed enterprises—such as banks or insurance companies—to outsource the management of Wi-Fi across all their branches and offices. This ensures the network is centrally managed and performing as required with minimum involvement from the IT or branch staff. The MSP will also ensure that the deployment and management of the network complies with the very stringent rules and processes of the institution.

USE CASE #3: Wi-Fi IN HEALTHCARE

Healthcare is comprised of licensed establishments primarily engaged in providing medical, diagnostic, and treatment services that include physician, nursing, and other health and specialized accommodation services to inpatients.

The use of Wi-Fi in hospitals, clinics, and other health institutions is very much driven towards improving the delivery of healthcare services and staff productivity. There are a variety of applications and devices that use Wi-Fi. Those include: infusion pumps, oxygen monitoring devices, and smart beds, alongside mission-critical information applications, such as access to electronic medical records (EMRs) and real-time access to X-rays and MRI scans. Medical telepresence delivered via Wi-Fi helps scale provision of high-quality healthcare to remote and underserved areas. Guest Wi-Fi helps healthcare IT managers eliminate the struggle associated with on-boarding of new devices, and the technology is well-suited to meet the growing connectivity demands of patients and their families in waiting rooms and lobbies.

With the right platform, hospitals can create a customized Wi-Fi experience for each type of user: medical staff, non-medical staff, patients, and visitors—each with their own level of access rights, security, bandwidth consumption, and relevant features. Such tiered access can help hospitals increase staff productivity, generate new revenue streams, and improve their overall patient and visitor experience as indicated in the figure below:

BENEFITS OF MANAGED Wi-Fi IN A HEALTHCARE ENVIRONMENT

Customers	Staff	Contractors	Institutions
<ul style="list-style-type: none"> Stay connected, informed, and entertained Navigate through hospital Improve experience while in hospital Provide timely feedback 	<ul style="list-style-type: none"> Stay connected, informed, and entertained Navigate through campus Improve experience 	<ul style="list-style-type: none"> Access patient records Track medical assets Communicate with other staff Navigate through campus Access institution central system 	<ul style="list-style-type: none"> Greater patient and visitor satisfaction Learn about traffic in the premises More revenues from guest Wi-Fi offering Greater staff productivity Track medical equipment Less down time Reduce capex and opex

Source: Datavalet

“Wi-Fi offers the opportunity for remote monitoring of patients through portable devices, bringing clinical information directly to the relevant people. Where used, it dramatically reduces errors, saves time, and increases efficiency.”

Adlane Fellah, Maravedis

BENEFITS OF MANAGED Wi-Fi

Healthcare institutions are not equipped with IT resources to deal with the large number of Wi-Fi users' requests and rapid evolution. The diversity and proliferation of devices, range of operating systems, security threats, new business requirements, technology lifecycle, and upcoming IoT all represent a challenge for understaffed and budget-stretched IT departments. Thus, hospitals, clinics, and other healthcare facilities are increasingly resorting to outsourcing the complete management of their Wi-Fi access and infrastructure to MSPs in order to refocus their attention on managing their core business as discussed in previous sections.

CONCLUSIONS

Wi-Fi has become an essential part of the customer journey in many verticals. Customers expect Wi-Fi to be available, reliable, seamless, and secure, and businesses need to meet these expectations. Guest Wi-Fi is becoming part of a broader solution which includes seamless connectivity on top of which software platforms that provide engagement and analytical tools are deployed. We make the case that Wi-Fi has become essential for enterprises and that it makes sense for them to outsource the management of their Wi-Fi infrastructure to a trusted MSP in order to avoid all the headaches and costs associated with maintaining their Wi-Fi infrastructure. Instead, these businesses can focus their talent and energy on their core business.

ABOUT THE AUTHOR



Adlane Fellah, Senior Analyst, has been the CEO of Maravedis, a leading wireless analyst firm since 2002. Mr. Fellah has authored various landmark reports on Wi-Fi, LTE, 4G, and technology trends in various industries, including retail, restaurant, and hospitality. He is regularly invited to speak at leading wireless and marketing events and consistently contributes to various influential portals and magazines, such as RCR Wireless, 4G 360, Rethink Wireless, The Mobile Network, and Telecom Reseller, to name a few. He is also a Certified Wireless

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ABOUT DATAVALET



Datavalet is a leading Managed Wi-Fi Solutions provider specializing in the design, development, implementation, support, and management of Wi-Fi solutions for multi-site enterprises. Its offering includes Wi-Fi Access Management, Wi-Fi Infrastructure Management, Analytics and Engagement Applications, and Professional Services.

Datavalet serves a wide range of clients in the following sectors: restaurants, cafés, retail stores, banks, insurance, hospitals, clinics, airports, and governments, among others. Thanks to Datavalet's partnership with several North American network integrators and telecom operators, Datavalet is the supplier of choice for Managed Wi-Fi Solutions.

More information about Datavalet may be found [here](#).