IBISWorld Procurement Report: 31276845
Mobile App Development Services

Andrew Krabeepetcharat
March 2017

IBISWorld
WHERE KNOWLEDGE IS POWER

About this Report

This report is intended to assist buyers of mobile application (app) development services. A mobile app is a software program made to run on a mobile device, such as a smartphone or tablet. Mobile apps can be games, business tools, social networking channels or other forms of entertainment. Suppliers in this market employ a variety of skilled programmers that assist buyers with designing, building, deploying and managing mobile apps. These services do not include the process of selling or distributing apps. This report also does not differentiate between web apps and native apps, nor does it cover mobile enterprise application platforms.

Table of Contents

2 At a Glance

3 Executive Summary

4 Price Environment
4 Price Fundamentals
4 Benchmark Price
5 Pricing Model
6 Price Drivers
6 Input Cost Drivers
6 External Demand Drivers
8 Recent Price Trend
9 Price Forecast

10 Product Characteristics
10 Product Life Cycle
10 Total Cost of Ownership
11 Product Specialization
11 Related Goods
12 Substitute Goods
12 Regulation
12 Quality Control

14 Supply Chain & Vendors
14 Supply Chain Dynamics
14 Supply Chain Risk
15 Geographic Locations
15 Imports
15 Competitive Environment
15 Market Share Concentration
16 Vendor Company Types
17 Market Profitability
17 Switching Cost

19 Purchasing Process
19 Buying Basics
19 Buying Lead Time
19 Selection Process
19 Buying-Decision Scorecard
20 Key RFP Elements

22 Negotiation Questions

23 Buyer Power Score Components

24 Jargon & Glossary

At a Glance

Recent Price

0.6%

2014-2017

Demand for mobile app development has been rising in line with the exponential growth in smartphone and tablet usage, thereby causing service prices to increase in the three years to 2017.

Forecast Price

0.8%

2017-2020

An expanding number of mobile internet connections and a higher percentage of services conducted online are forecast to bolster demand and prices for mobile app development services in the three years to 2020.

Growth percentages represent annualized data.

Market Characteristics

Availability of Substitutes	Market Share Concentration	Product Specialization	Switching Costs
LOW	LOW	HIGH	MEDIUM

Market Risk

Recent Demand Driver Volatility	Recent Price Volatility	Vendor Financial Risk	Supply Chain Risk
MEDIUM	LOW	HIGH	LOW

Buyer Power Score

3.5

See p. 23 for details.

Benchmark Price

$127

per hour

Key Price Drivers

- Average wages – software publishing
- Overhead costs – office space rental
- Number of mobile internet connections
- Percentage of services conducted online
- Number of businesses

Major Vendors

There are no major vendors in this market.

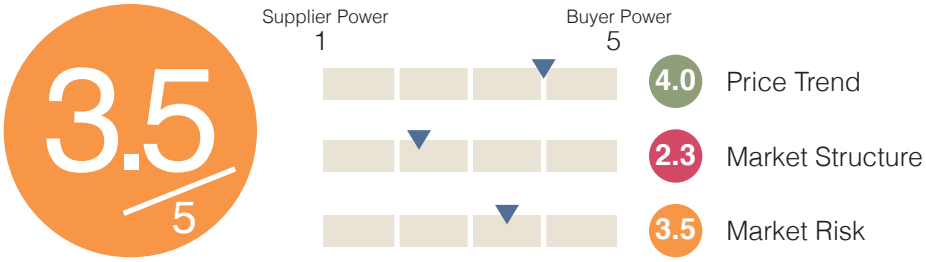
Vendor Cost Benchmarks

24.1% ↑	49.6%	7.6% ↑	18.7% ↓
Profit	Wages	Purchases	Overhead

Arrow indicates trend during the past year and next year.

Executive Summary

Buyer Power Score



The IBISWorld Buyer Power Score is a weighted score based on a number of quantitative and qualitative criteria associated with buying a product or service. The score is calculated between 1 and 5, with 1 signifying low buyer power and 5 meaning high buyer power. The more power a buyer has the greater leverage they have to get lower prices and better contract terms. For more information see page 23.

Executive Summary

The mobile app development services market has a buyer power score of 3.5 out of 5, which indicates mixed negotiation conditions for buyers. Prices for mobile app development services have been rising during the past three years as more companies have required assistance designing, coding and testing mobile apps. Because of the smartphone and tablet boom, businesses have felt significant pressure to develop new channels, like mobile apps, to reach downstream clients. Likewise, expanding mobile internet connectivity, a rising percentage of services conducted online and an increasing number of businesses have all been increasing demand, and thus prices, for mobile app development services in the three years to 2017.

Fortunately for buyers, competitive pressure has stifled overall price growth. The fragmented nature of the market ensures that no single supplier earns the majority of market revenue. Buyers have benefited from this low level of market share concentration, which has forced many new app developers to compete on the basis of price to entice buyers. Large development firms with strong reputations have also started to offer mobile app development services, further increasing the intensity of competition within the market. The low market share concentration has resulted in price-based competition between both large and small suppliers, helping to maintain low price volatility during the period and allowing buyers to accurately anticipate their spending.

However, some market factors reduce buyer power. The level of substitutes is low and, therefore, buyers have a reduced ability to use alternative services as leverage during the negotiation process. Outsourcing mobile app development is the only option besides hiring an internal app development team, which can be more expensive. Furthermore, mobile app development is highly specialized, meaning that each project is customized to suit the buyer's needs. A high level of specialization makes it more difficult for buyers to compare offerings across suppliers.

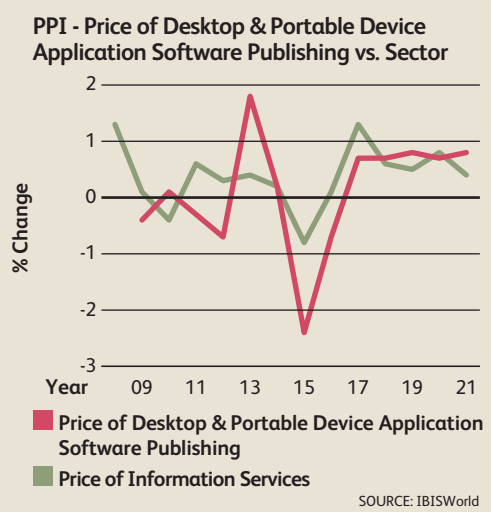
Price Environment

Price Summary

Three-year Price Trend 0.6%

Three-year Price Forecast 0.8%

- Factor is a threat to buyer
- Factor should be investigated
- Factor is not a threat to buyer



Price Fundamentals

Average Price	$127 per hour
Price Range	WIDE: $50.00 to $200 per hour
Key Pricing Factors	Type of app Platform compatibility Stage of development Vendor's reputation

Benchmark Price

The average price for mobile app development services is $127 per hour in 2017. Prices range widely from $50.00 to $200 per hour, depending on a number of factors. One determinant of price is the type of app; buyers pay higher prices when the app being designed is more complex. For example, enterprise apps that include database management systems cost more than basic apps that have limited functionality. In contrast, mobile apps that do not require hosting or transaction services will generally be easier to develop and thus cost less.

Platform compatibility also influences price. Developing native apps (i.e. apps developed for use on a particular platform or device) requires a new development process for each different app platform. For example, an app that is made specifically for an Android smartphone cannot function on Windows or iPhone devices. Consequently, cross-platform compatibility requirements inflate service prices for buyers because it requires more programming time from the supplier.

The stage of development that a project is at when services begin is another key pricing factor. Vendors charge higher prices for building custom mobile apps from scratch. Some buyers initiate projects with just a basic idea of their needs, whereas others have prototypes or other design work already in place. However, buyers that are looking for programmers to test the mobile app or do simple coding on a work in progress may incur lower fees.

The vendor's reputation can change the overall price as well. Vendors that have a track record for creating successful mobile apps charge higher

Price Environment

Price Fundamentals continued

hourly rates than smaller vendors or self-employed developers do. Suppliers that have a reputation for serving niche markets, such as healthcare and banking, will also be able to charge more due to expertise.

Lastly, the geographic location of the supplier influences pricing. Suppliers in areas with higher average wages for software programmers will generally have higher mobile app development service prices. Furthermore, areas like New York have a higher cost of living, thus higher average wages are passed down to buyers in the form of higher prices.

Pricing Model

Suppliers in this market price services according to a range of pricing models including time and materials, fixed price and fixed time and materials. Pricing models are typically determined after a vendor has evaluated a buyer's specific needs and has estimated the time frame and labor required to design, code and test the mobile app. There are fixed-price structures, such as the fixed time and materials and fixed pricing models, that offer greater cost transparency for buyers and help make development budgets more predictable. However, time and materials pricing models are riskier for buyers because development can take months to complete.

Most commonly, buyers are charged according to the time and materials model, by which the supplier is paid on an hourly basis. Paying hourly fees presents some risk to the buyer when the amount of time required to develop the app is not clearly defined. There are some suppliers, though, that charge on a per-project basis, which may reduce the likelihood of incurring extra costs.

Buyers that anticipate creating multiple mobile apps should consider entering into long-term contracts. Service contracts generally last three to six months, but can last longer if buyers require ongoing support for device updates or analyzing user statistics. Suppliers typically offer more favorable rates for buyers that enter into long-term contracts.

Geographic Pricing

City	Average Price ($)	Difference from National Average ($)
Atlanta, GA	142.06	+14.82
Boston, MA	167.22	+39.98
Charlotte, NC	138.81	+11.57
Chicago, IL	132.46	+5.22
Cincinnati, OH	126.00	-1.24
Dallas-Fort Worth, TX	151.96	+24.72
Denver, CO	154.78	+27.54
Detroit, MI	129.94	+2.70
Houston, TX	149.15	+21.91
Los Angeles, CA	158.38	+31.14
Minneapolis, MN	141.02	+13.78
Miami, FL	127.76	+0.52
New York, NY	164.44	+37.20
Nashville, TN	125.12	-2.12
Philadelphia, PA	144.07	+16.83
Phoenix, AZ	138.41	+11.17
Riverside, CA	151.98	+24.74
San Diego, CA	163.89	+36.65
San Francisco, CA	180.41	+53.17
Seattle, WA	177.91	+50.67
Tampa, FL	137.34	+10.10
Washington, DC	164.42	+37.18

SOURCE: IBISWorld and US Census Bureau

Price Environment

Price Drivers

Price Driver Volatility Level: MEDIUM

Overall price driver volatility for mobile app development services is moderate due to a mix of volatile and stable drivers. The largest input cost for vendors is wages, which has been stable over the past three years. However, external demand drivers, such as the percentage of services conducted online and the number of mobile internet connections, have been showing high levels of volatility during the period. Still, despite a moderate level of price driver volatility, stiff market competition results in a low risk of price fluctuations for mobile app development services.

Input Cost Drivers

Average wages – software publishing: During the past three years, wages as a percentage of revenue have remained relatively stable, making up about 49.6% of revenue in 2017. Stable wages as a percentage of revenue has been due to wage expenses growing in line with revenue growth. Therefore, wage expenses have had a minimal effect on prices. Mobile app development services are labor-intensive, and vendors often employ a variety of skilled professionals that are trained in a number of programming languages, such as Java and C++. Some developers work alone and therefore spend little on capital expenditure, thereby allocating more of their revenue to wages. In the three years to 2017, average wages in the field of software publishing have been rising at an estimated average annual rate of 0.1% due to rising demand from the software publishing industry. In the three years to 2020, average wages are forecast to remain stable. Suppliers' wage expenses are expected to grow in line with revenue, leading to wages as a share of revenue also remaining stable during the next three years and having minimal impact on pricing.

Vendor Average Cost Structure	Proportion of Revenue (%)
Profit	**24.1**
Wages	**49.6**
Purchases	**7.6**
Overhead	**18.7**
Rent	3.7
Marketing	3.4
Depreciation	2.5
Other	9.1
Total	**100.0**

SOURCE: IBISWorld

Overhead costs – office space rental: Overhead expenses make up another significant internal cost for suppliers, accounting for 18.7% of revenue. Overhead costs have been decreasing during the past three years, having made up about 23.4% of revenue in 2014. The majority of overhead consists of administrative functions and costs related to telecommunications, depreciation and marketing. Office space rental is a notable overhead expense that has been increasing in the past three years at an annualized rate of about 2.4%, and is projected to continue rising at an average annual rate of 0.6% during the next three years. Office space rental prices have been growing due to rising demand for corporate real estate. This trend has mitigated the overall decline in overhead costs. Nevertheless, vendors have undergone less pressure to raise service prices due to overhead costs as a whole declining. During the three years to 2020, overhead costs are forecast to continue declining to about 16.9% of revenue, helping to keep price growth slow during the period.

External Demand Drivers

Number of mobile internet connections: This driver represents the total number of devices capable of

Price Environment

Price Drivers continued

broadband internet, such as wireless modem laptop cards, smartphones or handsets, as well as subscriptions that include a data plan. The number of mobile internet connections grew exponentially during the smartphone market boom, but that growth rate has started to slow as the market becomes more saturated. During the three years to 2017, the number of mobile internet connections has been rising at an estimated average annual rate of 12.4%, and is forecast to continue rising at an annualized rate of 5.2% through 2020. Strong growth in the number of mobile internet connections has boosted demand for mobile app development services, resulting in higher prices for buyers.

Percentage of services conducted online: The percentage of services conducted online measures the available internet-based services that businesses once paid for in a physical form. As the percentage of services conducted online increases, so does the percentage of services offered via mobile applications. During the three years to 2017, the percentage of services conducted online has been rising an estimated 3.8 percentage points as businesses continue to move operations online to increase efficiency. This driver is forecast to rise an additional 4.7 percentage points

Price Driver Statistics

	Average Wages - Software Publishing ($)	Change (%)	Overhead Costs - Office Space Rental (Index)	Change (%)	Number of Mobile Internet Connections (Million)	Change (%)	Percentage of Services Conducted Online	Change (%)	Number of Businesses (Million)	Change (%)
2007	139,255.11	7.68	126.90	0.30	15.99	159.20	4.04	25.10	7.71	1.40
2008	134,272.43	-3.57	133.30	5.00	24.32	52.10	4.68	15.80	7.60	-1.30
2009	132,053.65	-1.65	133.30	0.00	48.87	100.90	5.75	22.80	7.43	-2.20
2010	142,050.31	7.57	134.20	0.70	86.40	76.80	6.42	11.70	7.40	-0.50
2011	143,374.33	0.93	133.50	-0.50	130.72	51.30	7.05	9.80	7.35	-0.60
2012	142,667.12	-0.49	134.60	0.80	161.73	23.70	7.89	11.90	7.43	1.10
2013	141,920.62	-0.52	136.10	1.10	194.04	20.00	9.60	21.70	7.49	0.80
2014	148,740.33	4.80	138.50	1.80	219.40	13.10	10.96	14.10	7.56	1.00
2015	148,857.88	0.07	145.40	5.00	242.00	10.30	12.68	15.70	7.76	2.70
2016	148,719.22	-0.09	147.60	1.50	291.88	20.60	14.20	12.00	7.83	0.80
2017	149,004.70	0.19	148.50	0.60	311.43	6.70	14.78	4.10	7.90	0.90
2018	149,028.13	0.01	149.50	0.70	325.19	4.40	15.96	8.00	7.97	0.90
2019	149,190.14	0.10	150.10	0.40	344.56	6.00	17.66	10.60	8.03	0.80
2020	149,165.03	-0.01	151.30	0.80	362.24	5.10	19.47	10.30	8.09	0.80
2021	149,310.80	0.09	152.20	0.60	380.15	4.90	21.57	10.80	8.16	0.80

SOURCE: IBISWorld

Price Environment

Price Drivers continued

during the three years to 2020, strengthening demand for mobile app development services and leading to higher prices.

Number of businesses: This driver measures the total number of businesses in the United States containing one or more employees. A larger number of businesses increases demand for mobile app development services because mobile apps offer these companies a new way to reach existing customers and boost their brand exposure across different markets. During the three years to 2017, the number of businesses has been increasing at an estimated average annual rate of 1.5%, and is forecast to continue increasing at an annualized rate of 0.8% in the three years to 2020. The number of businesses has been increasing due to fast growth in the technology sector. As business activity continues to grow and demand for mobile app development services increases, suppliers will be incentivized to raise prices.

Recent Price Trend

Three-Year Average Annual Price Trend: **0.6%**

Price Volatility: **LOW**

During the three years to 2017, the price per hour for mobile app development services has been increasing slightly at an estimated average annual rate of 0.6%. Demand for these services has been rising in line with significant growth in the use of smartphones and tablets. Although the early stages of mobile app development focused on gaming and social networking, businesses have since begun to use apps to expand their competitive reach and support revenue growth within their respective markets.

The number of mobile internet connections has been exponentially increasing in line with rising demand, thereby creating more opportunities for mobile app development. Furthermore, the growing number of US businesses has been increasing the pool of potential clients for suppliers. Many of these new companies have been implementing mobile apps in attempt to market their brands and reach clients. The rising percentage of services conducted online has also been supporting demand. Unfortunately for buyers, the growth in these drivers has translated into rising prices for mobile app development services.

Although increasing demand for mobile app development services has reduced buyer power, other market factors have benefited buyers. Low barriers to entry have allowed many vendors to enter the market and offer lower prices, increasing competition among suppliers. The impact of this trend is enhanced by the current growth stage of the market because developers have yet to find an efficient way to appeal to buyers that are accustomed to sifting through the vast number vendors. This factor has fostered price-based competition among suppliers, limiting the rate of price growth and aiding buyer power.

During the past three years, buyers have been benefiting from a low level of price volatility, which has reduced the chance of sudden price shifts. Nevertheless, given the sustained high demand for mobile app development services, buyers should consider developing contracts with suppliers now in order to lock in prices before they rise further.

Price Environment

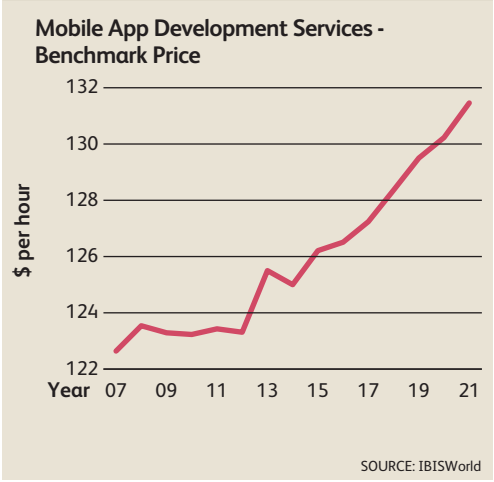
Price Forecast

Three-Year Average Annual Price Forecast:
0.8%

In the three years to 2020, suppliers are expected to capitalize on the rise of big data and predictive analytics that improve the mobile app experience, thereby allowing them to continue raising prices. IBISWorld projects that the price per hour for mobile app development services will rise at an average annual rate of 0.8% during the period. Therefore, buyers should purchase their services now to avoid paying higher prices in the future.

Demand for market services is expected to continue growing. The ongoing rise in the number of US businesses will support demand for mobile app development services as more companies seek assistance in developing mobile strategies. The number of mobile internet connections will also continue to grow, albeit at a slower rate than in the previous period, further driving up demand. Furthermore, the percentage of services conducted online will continue to support new mobile app transactions and business functions. As the amount of information being stored and transmitted through mobile app technology increases in the next three years, suppliers will raise their service prices to account for the upward shift in demand.

However, despite rising demand, there are factors that will benefit buyers and temper price increases during the period. Competition is expected to remain high among vendors as they search for new and more creative ways of boosting their market share and revenue. Furthermore, low barriers to entry will continue to allow more vendors to enter the market to take advantage of rising demand, thereby encouraging vendors to keep their prices competitive and reducing the rate of price growth. Additionally, price volatility is anticipated to remain low, reducing the risk of buyers facing drastic price shifts. Nevertheless, buyers should consider starting their development projects now to avoid paying higher prices through 2020.

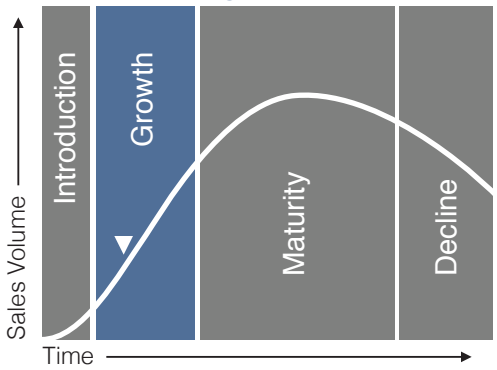


Product Characteristics

Product Life Cycle

The market for mobile app development services is in the growth stage of its life cycle. The mobile app market has had exponential sales growth during the past three years due partly to the rapid pace of technological innovation and high buyer adoption rates. Furthermore, rising demand has encouraged an accelerated influx of new suppliers into the market, thereby promoting competition during the past three years. However, the growth phase of the life cycle causes issues for buyers because fast changes in the market make purchasing conditions less predictable. Fast product change also forces buyers to upgrade their software more frequently, leading to additional costs.

Life Cycle Stage: **Growth**



Life Cycle Factor	Mobile App Development Services Characteristics
Price Trend	Prices for mobile app development services have been rising during the past three years, and are forecast to rise further through 2020. Despite the surge in demand for these services, price growth has been stunted due to increased competition in the market. Relatively stable prices will make it easier for buyers to budget for mobile app development services.
Product Change	A high degree of product innovation characterizes the mobile app market. As buyers' demands evolve, major tech firms, such as Apple and Google, continue to introduce devices that open up new opportunities for vendors. The short useful life of mobile apps will force buyers to implement regular updates, making the purchasing process more complicated for buyers.
Distribution Scope	The distribution scope for mobile app development services has been expanding in the past three years. Buyers do not necessarily need onsite consultation when creating mobile apps, so vendors can operate remotely. Expanding distribution will help buyers leverage multiple offers in order to obtain more competitive prices.
Marketing Trends	Marketing efforts vary depending on the size and scope of a vendor's operations. Suppliers in the mobile app development services market rely heavily on web marketing, social media and viral marketing to attract buyers. Vendors that create and publish their own mobile apps often cross-promote them. Buyers can potentially obtain discounts from promotions that vendors use to target new markets.

Total Cost of Ownership

Total Cost of Ownership **HIGH**

Buyers face a high total cost of ownership (TCO) for mobile app development services. A high total cost of ownership reduces buyer power because it can potentially cause buyers to incur unexpected expenses that are beyond their budget. Although vendors typically charge buyers on an hourly basis for services, the total cost of developing an app can range from $20,000 to $150,000, including ongoing expenses related to design work, coding, hosting, debugging, project management and updates. Buyers should also take into account the cost of marketing their completed mobile apps and any registration or commission fees they must pay to distribute their product in app stores. Furthermore, buyers that

Product Characteristics

Total Cost of Ownership continued

develop native apps must create separate versions for compatibility across different types of mobile devices. An app that is developed specifically for Android devices, for example, will need to be revised to make it available for iPhone users.

There are a few ways buyers can try to minimize TCO. Mobile apps that offer simpler functions are typically cheaper and can save buyers thousands of dollars in development costs. Buyers can also reduce costs by updating their mobile apps less frequently. An app can become obsolete rather quickly, with the average useful life lasting about six months. Buyers typically update their apps at least twice a year to account for changing business processes or operating system updates. Buyers can also use web apps, which run on an internet browser and can be accessed across multiple platforms, to save on compatibility and upgrade costs. Buyers should, however, be aware that lower total costs can indicate lower-quality mobile apps.

Product Specialization

Product Specialization **HIGH**

Mobile app development services are highly specialized due to the customized nature of the service. For the majority of new mobile apps, buyers work alongside vendors to determine what specific features or functions to include, from login systems and in-app purchasing options to social media integration and other formatting options. In each instance, suppliers can create mobile apps that are entirely customizable according to the buyer's needs. The more customized a buyer's needs are, the likelier they are to pay higher prices. The availability of customization options reduces buyer power because it makes it more difficult to compare service offerings between different suppliers.

Related Goods

Buyers may require other services that go beyond the development of mobile apps. As such, many vendors offer additional services to provide more comprehensive solutions for buyers. Offering these related goods opens vendors up to direct competition from other major consulting firms and software providers that assist buyers with managing their brands and IT infrastructure. Buyers that purchase multiple goods from a single supplier save on time and costs because the vendor becomes better acquainted with their operations during the mobile app development cycle.

Related Goods	Description
Mobile Strategy Development	Given the sharp rise in the number of mobile apps during the past three years, it has become harder for new apps to achieve financial success. Mobile strategy development services assist buyers with developing prelaunch strategies, including how to reach their target buyers and appropriately leverage different advertising channels for maximum exposure.
Website Design Services	Due to the similarities between mobile and web apps, many vendors also provide website design services. Suppliers can perform website coding, interface design, web hosting and search engine optimization. These services add value for buyers because mobile apps that are integrated with websites can reach a greater number of users.

Product Characteristics

Substitute Goods

Availability of Substitutes: LOW

Buyers have a low number of substitute goods from which to choose. The primary substitute available to buyers is to create mobile apps in house. It has become increasingly easy for firms to create their own mobile apps due to the relevant technology becoming more readily available. The viability of creating apps in house depends on buyers' business goals, available internal resources and preferences regarding an app's overall functionality. This alternative provides buyers with some leverage during the negotiation process, but the overall lack of available substitutes hinders buyer power.

Substitutes	Description
Internal App Development	Although outsourced solutions are effective, buyers can rely on in-house developers to design and create mobile apps using proprietary software. This substitute is most often used when buyers are in need of simple tools, such as utility apps. Buyers looking to develop mobile apps with more complex features do not have the proper talent or capacity to do so in house and will, find hiring external vendors a more cost-effective option.

Regulation

Regulatory Change: LOW

IBISWorld estimates that the level of regulatory change regarding mobile app development services is slow, benefiting buyers by reducing the likelihood of government intervention affecting prices. However, some regulation still exists in the market. The market is affected by regulation on the federal and state level in addition to the restrictions imposed by companies that distribute apps. Security and privacy issues related to third-party app developers are a central regulatory focus because of the sensitive nature of the information that businesses and consumers make available to apps and app marketplaces. However, these security issues have not had a noticeable effect on buyer power.

Quality Control

Key Quality Factors
Performance
Level of service
Security

There are a variety of factors that affect service quality. Overall performance is one measure of quality that buyers should consider because high-quality services are more likely to produce mobile apps that meet buyers' expectations. Performance is measured according to how well a vendor adheres to specifications regarding an app's technical features, speed, user interface and maintenance. Performance can also be measured according to how well a vendor's services stick to a prescribed budget or timeline.

Another measure of quality is the level of service that buyers receive. The quality of a mobile app will be influenced by how clearly and frequently buyers can communicate their design and functionality requirements to developers. As such, vendors that are more collaborative and have faster response times will have better service quality.

Lastly, buyers should evaluate quality based on the security measures a vendor puts in place. Higher quality services will protect any confidential data that is used during the development process,

Product Characteristics

Quality Control continued

ensuring that the finished product is not susceptible to bugs or data breaches from external parties.

Generally, buyers can expect to pay higher prices for mobile app development operators that have higher quality standards. Suppliers with stronger reputations for providing buyers with successful mobile apps will have more leverage during the negotiation process, enabling them to charge higher fees for their services.

Supply Chain & Vendors

Supply Chain Dynamics

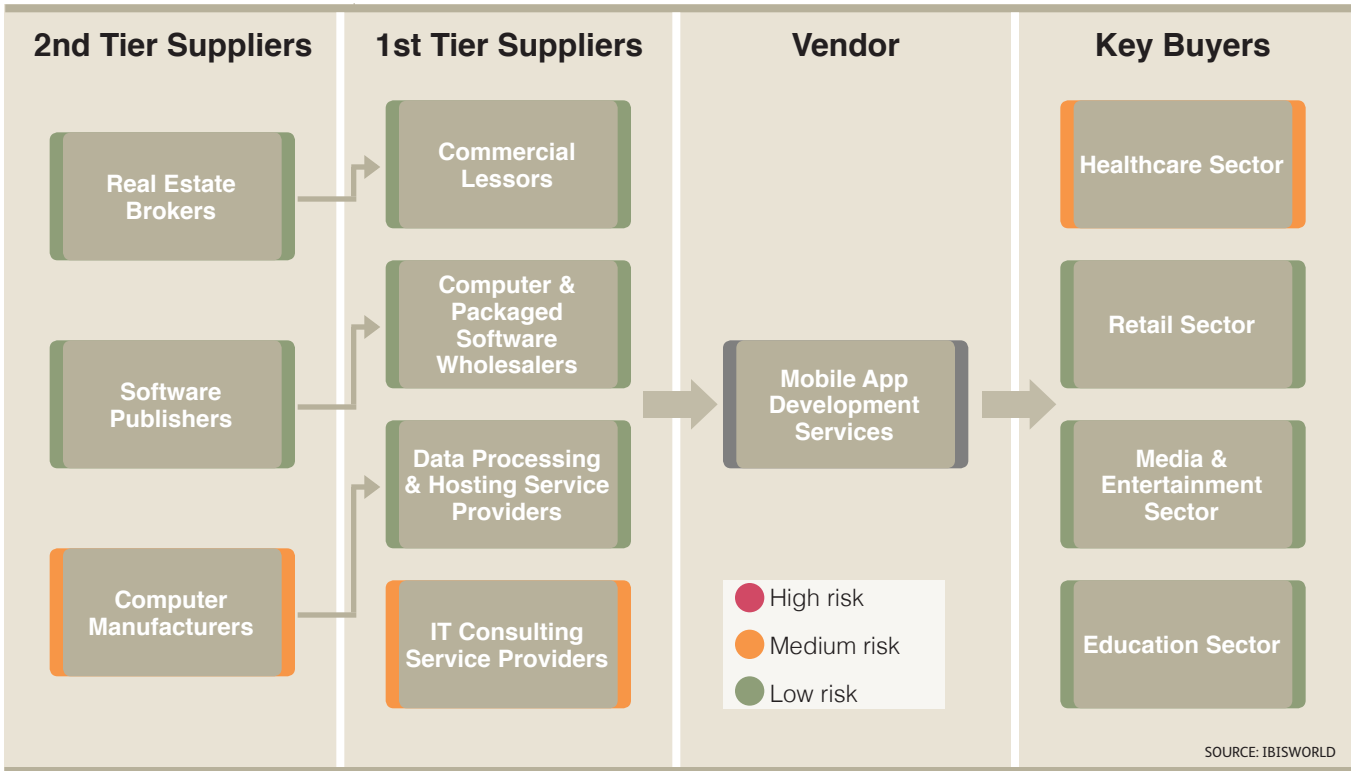
Supply Chain Risk: LOW

Average Vendor Risk: HIGH

Supply Chain Risk

The supply chain for mobile app development services exhibits low risk on average. Purchases made by service providers are mainly related to development kits and the hardware on which mobile app development is performed. Therefore, purchased goods are estimated to make up less than 10.0% of the average vendor's cost structure. Upstream suppliers also provide mobile app development operators with commercial office space, packaged software and IT consulting services. As new technology is released, developers must make regular purchases to ensure that their software remains compatible with a variety of platforms. Fortunately, most of the goods required for mobile app development are readily available, reducing the risk of delays or disruptions in service. Suppliers' control over their inputs contributes to the market's low price volatility and reduces the chance that upstream suppliers will disrupt services for buyers.

External influences, such as the rising number of mobile internet connections, the increasing percentage of services conducted online and the growing number of US businesses have been boosting demand for vendors. Downstream demand for mobile apps comes from a wide variety of businesses looking to reach new markets or simplify everyday tasks. Vendors develop mobile apps for companies in the healthcare, education, retail, and media and entertainment sectors, although consumers are also a significant buyer group. Despite the wide range of buyers, many vendors face a high financial risk due to the high level of competition in the market. Established vendors offer greater financial stability for buyers that wish to enter into long-term contracts.



Supply Chain & Vendors

Supply Chain Dynamics continued

Geographic Locations

Suppliers of mobile app development services are concentrated in the West, Southeast and Mid-Atlantic regions of the United States. The distribution of vendors is dependent upon population density and business activity. The West region contains the highest concentration of vendors, housing about 25.9% of total establishments. On the state level, California has the highest concentration of vendors with 17.4% of the total, followed by Texas and Massachusetts. California is a prime location for vendors because it is home to Silicon Valley and has a flourishing technology sector. Such regions appeal to suppliers because they allow for greater access to key buyer groups and universities where vendors recruit skilled developers and computer engineers.

A supplier's geographic location is important for buyers to consider if any phase of the development process will be conducted on site. Some larger developers have started to outsource their labor to reduce costs, posing a problem for buyers that require direct access to the engineers designing their app. Meanwhile, smaller vendors are often restricted to servicing local or regional areas.

There is a moderate level of globalization in the mobile app development market. Globalization has been slowly increasing over the past three years as more firms have begun to outsource coding and programming tasks to online freelancers. Globalization has also been supported by the ease with which apps are distributed after development. Increases in globalization benefit buyers because the presence of international suppliers puts pressure on domestic players to keep their prices competitive.

Imports

Given the service-based nature of this market, imports and exports do not affect buyers. IBISWorld estimates recorded trade as the value of products that are shipped as physical media. Although some coding and design work for mobile app development services may be outsourced, this is not considered international trade. The majority of market players are non-employers or smaller operators that do not operate on an international scale.

Competitive Environment

Market Share Concentration **LOW**

Market Share Concentration

The mobile app development market is highly fragmented. There are an estimated 200,000 mobile app developers in the United States, most of which are non-employers, and no single vendor holds a significant share of the market. During the three years to 2017, the number of enterprises has been rapidly expanding as new entrants have sought to take advantage of growing demand for market services. As a result, market share concentration has been declining during the period. Although prices have continued to increase, the market's competitive environment has stifled price growth. Buyers benefit from the fragmented nature of the market because it leads to more price-based competition and the ability to leverage multiple bids during negotiations.

Overall low barriers to entry contribute to the market's high fragmentation. The greatest challenge new suppliers face is that of obtaining the necessary talent to create mobile apps. Vendors rely on coders, designers, project managers and other skilled developers to build, test and maintain successful applications. Programming and coding often requires a university-

Supply Chain & Vendors

Competitive Environment continued

level education, although it can also be learned independently.

Vendor Company Types

Although there are a few public firms that offer mobile app development services, the vast majority of the 200,000 suppliers in the market are small, private operators and non-employers. The level of bankruptcy risk varies depending on the type of supplier. Newer entrants face a higher risk of default because they must compete with established vendors and struggle to differentiate their product offerings. Larger vendors typically have a lower risk of bankruptcy because they have more resources, funding and relationships.

Small and midsize vendors: According to IBISWorld estimates, about 192,000 mobile app developers are small and midsize vendors. These vendors make up the majority of the mobile app development market. Small and midsize vendors are more likely to develop apps for phones, as opposed to tablets or television platforms, and focus heavily on the consumer segment of the market. The operations of these vendors, which employ fewer than 500 workers and generate less than $100.0 million in total annual revenue, are much smaller than large firms' operations. IBISWorld estimates that about 96.0% of the vendors in the market are small and midsize vendors. Notable vendors within this segment include Sourcebits, WillowTree Apps, Mubaloo and Fuzz Productions. Buyers have greater leverage to negotiate lower prices when contracting with these vendors. However, these vendors often do not have the same production capacity or level of talent as larger vendors and cannot produce highly complex mobile apps to suit some buyers.

Large vendors: As the mobile app development market has continued to grow, a greater number of large vendors have been emerging. These vendors run more expansive operations than that of small or midsize firms, averaging more than $500 million in total annual revenue and employing more than 500 workers. About 4.0% of vendors in the market are large vendors. Notable vendors within this segment include Zynga, Electronic Arts, Rovio and King Games. These vendors are attractive for buyers because of their focus on serving business clients and their massive databases of active users. Large vendors offer a range of postproduction services, including assistance with marketing and distributing completed mobile apps. However, buyers that choose to contract

Enterprises by Employment Size

Number of Employees	Share (%)
0-4	42.3
5-9	14.7
10-19	14.4
20-99	19.6
100-499	5.1
500+	3.9
Total	100.0

SOURCE: IBISWorld and US Census Bureau

Supplier Diversity

Ownership Category	This Market (%)	Overall Sector (%)	Overall Economy (%)
Women	8.9	15.3	19.4
Minority	12.5	11.1	17.5
Veteran	6.9	6.1	7.5

Ownership is defined as owning at least 51 percent of a firm, which is the definition used by the Small Business Administration for government procurement programs.

SOURCE: IBISWorld and US Census Bureau

Supply Chain & Vendors

Competitive Environment continued

with larger and more reputable firms will generally pay higher premiums for their mobile app development.

Supplier diversity: Mobile app development services are less diverse when compared with the overall economy. The share of companies owned by women, minorities and veterans are less than the benchmarks for the wider economy, making it difficult for buyers wishing to meet contract diversity requirements or values through this market.

Market Profitability

Profit Level: HIGH

Profit Trend: RISING

IBISWorld estimates that the average profit margin for mobile app development service vendors is high at 24.1% in 2017. Profit margins do not reflect any revenue generated from an app once it is available to users; only the profit margin from the primary development of the app is considered. In the past three years, average vendor profitability has been increasing due to the minimal startup costs required for development and the spike in demand for mobile apps. Profit margins are expected to continue rising as mobile apps become more sophisticated and buyers require more complex functionality and design features.

High profitability and strong competitive pressure provide buyers with a better opportunity to negotiate deals when purchasing mobile app development services. However, these services are in the growth stage of the service life cycle, which reduces some of the leverage buyers have to push prices down because of high demand for the service. Some vendors are willing to negotiate deals if buyers are willing to pay retainer fees up front instead of paying hourly rates. Also, larger vendors tend to generate higher profit margins than smaller vendors because their brand name recognition allows them to charge higher fees. As a result, larger vendors tend to have more room to negotiate price.

Buyers typically benefit from strong profit margins because high profit lowers the risk of financial default among the market's more stable suppliers. However, the average financial risk for operators in this market remains high because the vast majority of suppliers are small firms or non-employers that do not have substantial financial resources to survive a downturn in revenue. High financial risk means that vendors are at significant risk of bankruptcy and service disruption. Buyers should, consequently, be sure to investigate the financial background of any potential suppliers prior to purchasing.

Switching Costs

Switching Costs: MEDIUM

Buyers face moderate switching costs when changing suppliers of mobile app development services. The switching process will require time and effort to evaluate prospective vendors, including their mobile app development history, staff qualifications and breadth of services. Buyers could also face a variety of performance issues when switching given the uncertainty of how new vendors will perform. Furthermore, buyers that switch vendors could face legal issues regarding the ownership rights and data security of any mobile apps that were left incomplete. Moderate switching costs are potentially harmful to buyers because it locks them in with the supplier.

However, there are many suppliers in the market to choose from, reducing switching costs to some extent. Buyers

Supply Chain & Vendors

Switching Costs continued

can try to mitigate switching costs by seeking out reputable vendors that carry a large portfolio of established mobile apps. In addition, establishing clear expectations and guidelines during the RFP process will reduce the likelihood that buyers will have to switch vendors during a project.

Purchasing Process

Buying Basics

Buying Lead Time: SHORT

Buying Lead Time

The buying lead time for mobile app development services is short. The process of evaluating vendors, developing an RFP and beginning the development process will not require a substantial amount of time. The average mobile app will, however, take three to six months to complete, although service contracts typically last longer to account for ongoing app maintenance.

Certain factors will increase overall lead time for buyers. Buyers that require assistance across a greater portion of the development cycle will generally have longer lead times. For example, buyers that have formulated their own sample prototypes and design specifications will not require as much preparation as those that must start development from scratch. Complex or customized mobile apps that lengthen the developing process will also cause longer lead times. Therefore, buyers that operate smaller businesses may face shorter lead times if they use simpler mobile apps that do not require complex design work or coding.

Lastly, the method of delivery will also affect lead time. Suppliers can provide mobile app development services on the buyer's premises, but many also provide their services remotely, helping to reduce lead time.

Selection Process

The relationship between buyers and suppliers in the mobile app development services market is generally transactional, meaning buyers and suppliers execute sales with minimal time commitment and at a low cost. Mobile app development is not typically integral to daily business operations because it is purchased on an ad hoc basis, usually at the start of a company. Therefore, for most buyers, business operations can continue without mobile app development.

Buyers have widespread and consistent access to mobile app development, constituting the low risk nature of these services. There are many suppliers for buyers to choose from in the market, thereby reducing switching costs somewhat. As a result, buyers generally do not spend a significant amount of time on the procurement of the service relative to other ongoing IT related services. Overall, buyers benefit from purchasing under a transactional relationship because they have flexibility when choosing vendors and switching suppliers.

Buying-Decision Scorecard

The Buying-Decision Scorecard outlines the key criteria a buyer should consider when purchasing this good or service. When weighing the importance of each factor, we assume that a buyer has narrowed down potential suppliers to those that meet the technical and price criteria specified in the RFP. The criteria and weights assigned below can be used as guidelines to help further differentiate already qualified vendors.

Purchasing Process

Buying Basics continued

Buying-Decision Scorecard

Factor	Weight (%)	Description
Technical Factors	**85.0**	
Experience	30.0	Buyers should evaluate how long a supplier has been offering mobile app development services. A more experienced supplier will give greater assurance to buyers that they will receive satisfactory returns on their investment. Experience can be measured by a supplier's app portfolio or testimonials from previous clients.
Talent	25.0	Suppliers require skilled labor to develop high-quality apps that will function consistently and appropriately. Buyers should seek out vendors that have stringent hiring practices and ongoing development for their staff of designers, coders and scriptwriters.
Technology	20.0	Vendors should adapt rapidly to changing technologies. As computing power continues to evolve, the useful life of apps is shortening. A vendor with up-to-date technology will help ensure a buyer's mobile app is appealing to downstream users.
Breadth of Services	10.0	Creating a mobile app is only one aspect of the app development process. Buyers may also require assistance marketing their app or bringing it to market. Suppliers that offer multiple value-added services will provide a more comprehensive app development solution for buyers.
Cost	**15.0**	
Price	15.0	Prices for mobile app development services can vary widely. Buyers should ensure that a supplier can meet budget requirements and minimize costs wherever possible. While hourly service prices can be controlled, the total cost of ownership for mobile app development can be high.
Total	**100.0**	

Key RFP Elements

Specific information to impart to suppliers in the RFP includes:

- Expectations regarding the method and frequency of communication during the development process
- Range of platforms the app should be compatible with
- Level of functionality required for the app and what general purpose the app is meant to serve
- A timeline for services and any established budget for the development process
- Target buyers the firm is looking to reach with the app
- Criteria used in evaluating potential suppliers, such as their mobile app development track record or market reputation
- Whether the app will require a database or web system to obtain information

Purchasing Process

Key RFP Elements continued

Specific information to gather from suppliers in the RFP includes:

- Copyright assignment or work-for-hire contract details that establish confidentiality and the buyer's ownership of the completed app
- A list of different employees working on the app and their credentials, including whether the buyer will have a central point of contact
- Information on any agreements the vendor has with third-party sales partners or other technology firms
- Options the buyer has for replacing the personnel the vendor assigns to the project
- Types of mobile apps the supplier may specialize in
- Warranty information or other related agreements that cover service updates and maintenance
- Capacity limitations that might negatively affect a supplier's ability to complete any projects

Standard Elements in an RFP

Overview & Scope	This tells the vendor about your company, why your company needs this product and what you hope to achieve from its purchase. Deadlines for steps in the procurement process should be clearly defined in the section.
Vendor Qualification	This section details the features a winning company must possess, such financial size, scope of work completed or geographical reach. This section will also explain the criteria used in evaluating the bid and its relative importance in your scorecard. This section might disqualify some companies, such as suppliers to your competitors.
Technical Specifications	This section details the technical and functional specifications of the product you want. The more detail provided, the shorter the procurement cycle since all vendors are bidding to the same, exact specifications. Further, if all needs are specified there is less chance of additional costs will surface down the road. This section will also look at service level agreement needs.
Financial Factors	This section is where vendor quotes prices for the product or service being supplied. This section should specify cost breakdowns, billing frequency (with specific dates, time periods), billing methods (mode of payment, including currency) and taxes.
Legal Framework	This section should reference the legal jurisdiction in the event of a dispute, methods for arbitration and contract termination mechanisms. Nondisclosure agreements are also part of this section, as are escrow agreements (mainly in the event of shared proprietary knowledge).

Negotiation Questions

Issue	Questions
Qualifications: A supplier with expertise in mobile app development can meet buyers' needs and provide effective solutions.	• How many projects have you completed during the past few months? • How long have you been in business? • Do you have examples of previous apps you have developed? • Can you provide a list of current and previous clients for reference? • For what platforms do you have experience designing apps?
Performance: Buyers should ensure that vendors have adequate quality measures in place for all technical processes. Services should be performed up to the level specified to avoid costly mistakes.	• What security measures do you have in place to protect data and ensure its preservation? • How do you manage updates for a completed app? • How do you test apps to check for glitches or bugs? How quickly can you address problems? • Do you follow any specific coding or programming standards? If so, what are they?
Value: Mobile app development services do not have outcomes that are immediately quantifiable, posing a risk for buyers. Vendors should provide a template for measuring service value.	• How should buyers measure their return on investment? Do you provide metrics or tracking tools? • What cost controls do you have in place? How do you ensure greater transparency of costs throughout development? • Do you offer value-added services, such as marketing support? How can a buyer effectively combine services for the best deal? • How much of the mobile app development process do your services address?
Internal Staff: The quality of a vendor's mobile app development services depends on the skills and capabilities of its staff. Buyers should evaluate how a supplier sources its employees.	• Where is your development team located? Do you outsource any of the app development process? • What skills do you look for when hiring your developers? What are the various stages of your hiring process? • How have you managed to keep wages under control in the past three years? • How do you retain qualified developers? What is the average tenure of your employees?
Competition: The mobile app development market is highly fragmented, which forces suppliers to differentiate their offerings. Buyers can use this competitive pressure as leverage during the negotiation process.	• What sets your mobile app development services apart from other competitors in the market? • Have you been the subject of acquisition? Are you looking to acquire another firm? How will this affect your business model? • How is the technology that you use superior to that of your competitors? • Do you monitor changes in technology and adapt accordingly? Can you give examples?
External Drivers: External market factors directly influence demand and pricing for mobile app development services. Buyers should ensure that their suppliers keep abreast of any relevant market trends.	• How has your company capitalized on the growing percentage of services conducted online? How do you intend on meeting demand as this figure grows through 2020? • As the number of businesses rises, how do you encourage new companies to invest in your services? • How have changes in the number of mobile internet connections affected your operations in recent years? • How do you monitor changing regulations? Do you anticipate any difficulties regarding security and privacy issues?

Buyer Power Score Components

Price Trend

Factor	Definition	Weight	Score
Recent Price		40%	4
Favorable	Compound annual growth rate in benchmark price over the past three years 0.1-1.4%		
Forecast Price		60%	4
Favorable	Compound annual growth rate in benchmark price in the next three years 0.1-1.4%		
Weighted Score		**50%**	**4.0**

Market Structure

Factor	Definition	Weight	Score
Availability of Substitutes		35%	1
Low	There are few viable substitutes for this product/service		
Market Share Concentration		25%	5
Low	The top four suppliers of this product/service have less than/equal to 29.9% market share		
Product Specialization		25%	1
High	The product/service is assessed as having a high level of specialization		
Switching Costs		15%	3
Medium	The cost of switching from this product and/or supplier is assessed as medium		
Weighted Score		**20%**	**2.3**

Market Risk

Factor	Definition	Weight	Score
Price Driver Volatility		25%	3
Medium	Average absolute difference in percentage change of external drivers 2.0-3.4%		
Recent Price Volatility		25%	5
Low	Average absolute difference in % change in price over last 3 years < 1.0%		
Vendor Financial Risk		25%	1
High	The average level of financial risk for product/service vendors is assessed as high		
Supply Chain Risk		25%	5
Low	The average level of product/service supply chain risk is assessed as low		
Weighted Score		**30%**	**3.5**

Overall Buyer Power Score 3.5

IBISWorld's Buyer Power Score is a calculation based on weighted quantitative and qualitative factors that measure a buyers' ability to negotiate lower prices and favorable contract terms. The higher the Buyer Power Score, the greater the average buyer's negotiating strength for this product. The overall score is composed of three components:
1) **Price Trend:** compares this product's average recent and forecast price change to the economy-wide inflation rate;
2) **Market Structure:** assesses the availability of alternatives and ease of purchasing in this product's marketplace
3) **Market Risk:** measures elements of volatility and risk impacting a buyer's confidence in making long-terms deals with suppliers of this product.

Jargon & Glossary

Jargon

C++ A computer programming language used for graphical applications that contains object-oriented features.

Java A computer programming language that runs on a variety of different operating platforms, including UNIX, Macintosh and Windows.

Native App An application that has been developed for use on a particular platform or device.

Web App An application stored on a remote server and delivered to buyers using an online browser interface.

Unique Device Identifier (UDID) A sequence of 40 letters and numbers that is specific to a single mobile device.

Glossary

HS The Harmonized Commodity Description and Coding System is maintained by the World Customs Organization as a standardized system of names and numbers for classifying traded products.

Life Cycle All products and services go through periods of growth, maturity and decline. IBISWorld determines a life cycle by considering factors such as pricing trends, the level and speed of product or service change, the extent of a product's distribution and the maturity of marketing trends.

Market Share Concentration Determined by the market share of the top four vendors for a given product or service: high is when the top four vendors account for more than 50.0% of the product or service market share, medium is from 30.0% to 50.0%, and low is less than 30.0%.

NAICS The North American Industry Classifications System is the standard by which industries (not products) in the United States, Canada and Mexico are classified.

Price Driver Volatility Level Determined by the average absolute difference in the percentage change of input cost items and external demand drivers over the past three years: high is 3.5% or greater for all drivers, medium is from 2.0% to 3.4% for all drivers, and low is 1.9% or less for all drivers.

Price Range The difference between the upper and lower price bounds divided by the benchmark price: wide is greater than 50.0%, medium is from 25.0% to 50.0%, and narrow is less than 25.0%.

Price Volatility Level Determined by the average absolute difference in the percentage change of the benchmark price over the past three years: high is 3.5% or greater, medium is from 2.0% to 3.4%, and low is 1.9% or less.

Producer Price Index (PPI) This index represents the change in the amount that producers receive for their products or services, as opposed to the prices that consumers pay for them.

Profit IBISWorld uses earnings before interest and tax (EBIT) as an indicator of a company's profitability. It is calculated as revenue minus expenses, excluding interest and tax.

Profit Level Determined by the average profitability of the industry in which a product or service vendor operates, compared to the average profit margin for all industries in the US. There are around 700 industries in the US classified using the NAICS taxonomy (see NAICS).

Total Cost of Ownership Level Determined by the total cost of ownership as a percentage of the benchmark purchase price per year: high is when the total cost of ownership is greater than 100.0% of the benchmark purchase price per year, medium is from 50.0% to 100.0%, and low is less than 50.0%.

UNSPSC Coding for each report title is based primarily on the United Nations Standard Products & Services Code. The code is a hierarchical classification codeset of expenditure items.

Wages The gross total wages and salaries of all employees in the industry. The cost of benefits is also included in this figure.

Z-Score The Altman Z-score formula is used to help predict a company's chances of going bankrupt within the next two years. The Z-score uses multiple corporate income and balance sheet values to measure the financial health of a company. Z-scores above 2.9 are defined as having a low financial risk level; scores between 1.23-2.9 are at a medium risk level and scores below 1.23 are a high financial risk level.

www.ibisworld.com | 1800-330-3772 | procureinfo@ibisworld.com

Who is IBISWorld?

We are strategists, analysts and researchers. We provide answers to information-hungry, time-poor businesses. Our goal is to provide real-world answers that matter to your business in our Procurement and Industry report collections. When tough business decisions need to be made, our suite of products gives you deeply researched answers quickly.

Our procurement and strategic sourcing research helps clients engage and negotiate effectively with suppliers, internal stakeholders and C-level executives. Our insight on price trends, major suppliers and supply chain risk helps clients better manage the entire sourcing process.

IBISWorld Membership

Instantly access information on hundreds of industries, markets and products by becoming an IBISWorld member. Contact us today for information on tailored packages to meet your needs.

IBISWorld

WHERE KNOWLEDGE IS POWER