

# **CRISIL Ratings' criteria for the software industry**

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## Executive summary

Our credit risk assessment of a software company involves evaluation of its business, financial and management risk profiles. Business risk analysis covers market position and operating efficiency. Evaluation of the market position entails assessing revenue, scale of operations, presence in the overseas market, client profile and diversification and strategy for mergers and acquisitions. Operating efficiency includes assessment of productivity parameters such as revenue and profitability per employee. It also covers human resources (HR) and knowledge management, systems and processes, employee utilisation rate, offshore-onshore employee mix, attrition rate and contract mix. While assessing the financial and management risk profiles of a software company, we follow the standard criteria used for all services sector companies.

## Scope

While the broader criteria for services sector companies<sup>1</sup> apply to software companies, too, this document<sup>2</sup> details the industry-specific factors affecting their credit risk profiles.

The criteria document highlights the parameters that are relevant for assessing the credit profile of issuers within the sector. These parameters serve as illustrative guidelines. The relevance of specific parameters varies based on the issuer's unique circumstances. For instance, if the liquidity of the company is weak, industry risk or other business-related factors may exert minimal influence on the final rating. Likewise, business parameters that hold substantial importance for one issuer may be less pertinent for another, potentially being encompassed within the broader category of industry risk.

## Assessment of software companies

The Indian software industry has strong international linkage as exports are its major revenue source. The industry is marked by low capital intensity, dependence on a steady supply of trained manpower and susceptibility to risks related to technology, exchange rate movements, end-user industry demand and growth in key geographies of the US and EU. Post the pandemic, work from home (WFH) and demand for non-contact services boosted the revenue growth to a strong 18-20% during fiscals 2022 and 2023 as against ~12% during fiscals 2015-2020 (~6% in the pandemic-impacted fiscal 2021). Sudden demand also led to advance hiring and talent hunt leading to a spike in employee addition and manpower costs, which impacted the margin in fiscals 2022 and 2023. However, macro-economic concerns in the US and EU, high inflation and growth moderation in key end-user industries, especially the banking, financial services and insurance (BFSI) segment, began to impact growth from late fiscal 2023. These concerns are expected to drive the growth slowdown to 10-12% in fiscal 2024 before any possible improvement next fiscal on. Domestic demand, on the other hand, is led mainly by government expenditure on digitalisation, while private sector prioritises spends on banking, cybersecurity and artificial intelligence (AI)/ machine learning (ML)-based mass personalisation products.

The value chain of software services and products comprises data processing, application outsourcing, maintenance, systems integration, consultancy and products. Traditionally, Indian software services export is driven by rising

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<sup>1</sup> The detailed criteria is present on the CRISIL Ratings' website under the Criteria and Methodology section — Rating criteria for manufacturing and services sector companies and CRISIL's approach to financial ratios

<sup>2</sup> For accessing previous published document on Rating criteria for the software industry, kindly follow below mentioned link: [https://www.crisilratings.com/content/dam/crisil/criteria\\_methodology/information-technology/archive/CRISIL-Ratings-criteria-software-industry\\_2007-feb2021.pdf](https://www.crisilratings.com/content/dam/crisil/criteria_methodology/information-technology/archive/CRISIL-Ratings-criteria-software-industry_2007-feb2021.pdf)

spend in the BFSI, retail and healthcare sectors. Increasing investments in automation of manufacturing operations, energy and mining, digital solutions for engineering research and development (R&D), telecom and media, and auto and electric vehicles are also driving demand. Nevertheless, the BFSI sector will continue to dominate and drive IT offshoring in the country.

The sector also has a geographic skew with the US accounting for a large chunk of exports. This dependency could reduce as the players explore new geographies in Europe and the Asia-Pacific. They are also likely to focus on non-linear<sup>3</sup> streams of revenue, including digital services, analytics and AI/ML-led products and platforms to diversify and drive revenue growth, and thereby improve efficiency. The companies provide custom application development (CAD) services, infrastructure management services (IMS) and application management services (AMS).

The industry faces challenges related to macroeconomic uncertainty and protectionist measures in key geographies, intensifying competition from global services vendors and a potential resource crunch as services provided become complex.

Software companies are evolving from being pure-play service providers to end-to-end project implementers. We believe their ability to customise solutions and provide value-added services will help maintain growth over the long term. Growth in digital services will remain a key monitorable over the medium term.

The other key success factor for an industry player is the ability to attract, train and retain professionals.

Our analysis of the management and financial risk profiles of software companies follows the standard criteria for the assessment of manufacturing and services sector companies. The key parameters we consider while evaluating a software company's business risk profile are its market position and operating efficiency.

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<sup>3</sup> Includes cloud-based offerings and services, platform-based business process outsourcing (BPO) services and products, and intellectual property (IP)-based solutions

## Business risk

### Market position

#### Scale of operations

Scale of operations is critical. The larger the scale, the greater the benefits of economies of scale and the ability to withstand profitability pressures. We believe the ability to provide complete solutions and win large global orders for high-end services hinges on the scale of operations. We also consider benefits of a company's niche focus areas in our assessment. For example, consider engineering design for a specific industry segment. This may provide a small company considerable competitive advantage over its larger peers. A large base of available employees provides flexibility to deploy staff across projects being simultaneously implemented, while leaving sufficient resources to undertake new contracts on short notice.

#### Revenue mix

We analyse the various vertical and horizontal segments in which a company operates.

Vertical segments are defined in terms of client industries such as manufacturing, insurance, banking, telecom and travel/tourism. We analyse the business prospects of key segments in these industries. Presence in diverse segments lends stability to earnings. However, most IT services companies tend to focus on verticals in which they have expertise and seek to build a significant presence in those verticals. Most of them operate in horizontal segments such as training, software projects and services, consultancy, products and customised services. Companies that are proactive in expanding the scope of their services to include emerging segments and increasing focus on non-linear revenue streams are better placed to have stable revenue. To grow, the companies not only focus on new client/ logo additions but also on increasing wallet share of customers. Given the rapidly changing business dynamics and emerging divergent trends in the growth of traditional IT services and digital services, we also analyse their ability to innovate and adapt to changes.

Within each area, specific platforms and technologies used are analysed in terms of technology risks, growth potential and user base.

We also examine a company's revenue mix for the nature of the contracts it implements. Onshore contracts, which generally offer lower margins, bear risks related to restrictions in the number of visas granted to professionals (such as the H1B visas in the US) but provide a strong platform to showcase capability. Offshore projects, on the other-hand, are higher-margin and critical to drive size and scale with services delivered from low-cost locations such as India and the Philippines. A higher proportion of onshore contracts ensures sharp sales growth, whereas that of offshore contracts results in better operating margin. A software company must strike a balance between offshore and onshore contracts to ensure growth and stability in operating margin. Maintaining a right balance is particularly important given the changing regulations on immigration and increasing contribution of digital and consulting-led contracts that require higher onshore deployment.

Contracts could also be classified as time-and-material contracts and fixed-price (or full time equivalent [FTE]) contracts. Fixed-price contracts require more project management expertise than time-and-material contracts but may have a higher operating margin if the company's project management skills and automation capabilities are sound. Time-and-material projects are less risky as time and cost overruns do not affect the service provider. However, the potential upside in profitability is lower than fixed-price contracts. The IT services industry has seen a rise in fixed-price contracts over the past five years.

## **Billing rates**

IT service providers operate on an hourly billing rate model, under which the client is billed for each man hour provided in time-and-material contracts and for a pre-decided number of hours in fixed-price contracts. India's IT vendors have traditionally focused on providing low-end services, such as CAD. However, owing to low billing rates and the commoditised nature of CAD services, the players have begun to realign their efforts towards high-end (non-discretionary) services to be able to command higher billing rates. The ability to provide innovative solutions becomes critical for retention of clients and to enjoy pricing power. We believe IT companies with a strong position in the high-end digital services market will command higher billing rates from customers and may, thus, maintain higher operating margin even in a challenging economic environment.

The companies are also sharpening focus on consulting services on a fixed-fee basis or digital deals that link part of the vendor's remuneration to actual realisation of the project's benefits in transformational projects that solve specific business problems through IT. Fixed-fee or risk-sharing IT consulting contracts are mostly for projects with well-defined outcomes. Such a billing arrangement requires controlling of cost by increasing the utilisation rate. At the same time, a high level of expertise is required to execute the project within specified timeline without cost overrun or else profitability may be impacted.

## **Geographic diversity**

The geographic spread of revenue is an important parameter in analysing a company's business risk. Overseas markets account for most of the domestic software industry's growing turnover. The US (accounts for ~55-60% of the sector's revenue) and Europe including the UK (~30%) are the main export markets. Although geographic diversity mitigates business risk, the skew is unavoidable as the US has the largest IT spend in the world. However, if there is a slowdown, geographic concentration poses risks related to spending in the company's key markets and other factors such as visa restrictions for software professionals. The recent change in US visa norms have only magnified these concerns.

As domestic software companies derive most of their revenue overseas, it is crucial that they develop a strong marketing base in these regions. The business is essentially relationship-driven and clients need to be assured of the service provider's capabilities before they decide to outsource critical aspects of their IT initiatives. Hence, we examine whether a company's revenue is geographically diversified and assess the geographical diversity of delivery centres. This plays an important role in mitigating business continuity risks, which could entail high monetary costs and increases the reputation risk for a company.

## **Client profile**

Our analysis of highly rated software companies indicates that they have established relationships with large clients, which lead to repeat business and provide stability to earnings. However, dependence on a single client increases risks as in case the company loses that client, it could be a major setback. New client acquisitions and quality of such clients are indicators of a company's marketing and delivery capabilities. Trends in the proportion of business that a company generates from its top 5-10 clients, the proportion of repeat business, the number of new clients added every year, and improvement in diversification are analysed to determine a company's business risk profile.

## **Mergers and acquisitions**

Many domestic companies are acquiring companies in the US and other countries to capitalise on existing client relations and to acquire domain expertise. Successful and speedy integration of the acquired company is critical for this strategy to yield optimal gains. We assess new acquisitions based on the acquiree company's ability to successfully integrate the acquired companies and their synergy with the existing business strategy. Also, inorganic

growth will remain a key driver, with companies specialising in artificial intelligence, machine learning, automation and analytics becoming targets. The companies are now focusing on smaller-sized capability-driven acquisitions as opposed to large sized acquisitions in the past. Given that acquisitions are critical to growth, understanding acquisitive stance of a company is also key to assessing its financial risk profile.

## Operating efficiency

### Productivity

We believe intensifying competition will constrain billing rates, both in India and overseas. Rising employee cost and the necessity to retain quality talent will squeeze operating margin. Conversely, the increased use of automation should improve productivity. In this scenario, the key variables that the companies will be able to control are productivity and time taken to implement projects.

We try to understand a company's software engineering process and project management abilities. These are essential to ensure completion of projects within the budgeted cost and time. We also assess productivity parameters such as revenue and profitability per employee. Many companies follow a library approach to reduce development time by using standardised codes for repetitive tasks. Other ways of minimising development time and cost are also examined.

### Employee utilisation rates, offshore-onshore employee mix, contract mix

Employee utilisation rate, offshore-onshore employee mix and contract mix are the typical levers that IT companies deploy to improve efficiency. While each of these can help increase operating margin, each has its own attendant risks, too. For instance, while an increase in utilisation rate results in better operating margin, it impairs the company's ability to quickly deploy bench workforce for potential large contracts. Similarly, while offshore employees can help increase profitability, an adequate number of employees onshore is essential for critical transition work. Also, by ensuring that all contracts are on time-and-material basis, the players may have a low operating margin but are susceptible to fewer risks than fixed-priced contracts. With increasing share of digital services in the recent years, the industry has been facing shortage of 'digital' skilled employees. As a result, the companies are investing in up-skilling their employees in relevant domains. They also resort to sub-contracting in case they face capability- or delivery-related challenges, although margins in such projects are lower.

Another parameter that we evaluate as a measure of an IT company's operating efficiency is support staff and selling expenses as a percentage of revenue. This typically declines with increasing scale of operations. However, companies with many offshore development centres and sales teams across geographies tend to have large support and selling expenses, unless they take proactive steps to improve efficiency.

A software company's most important assets are HR and accumulated knowledge. The outflow of software professionals from India to developed markets has a two-fold impact on domestic firms: high employee attrition and increasing wage.

Given the high employee attrition in the industry, it is important that we study the HR policies of the company we assess. Ability to attract, train, motivate and retain quality manpower is critical to the IT business. Attrition rates at various levels are compared with industry trends. Companies with sound HR sourcing strategies are better placed to minimise the impact of high employee attrition. The attrition rate, which had historically been 10-15%, shot up to ~20-23% after the onset of the pandemic owing to a spurt in the demand for IT services. This impacted the operating margins of domestic IT companies. The rate began to moderate from the last fiscal.

The pandemic also forced the companies to reduce lease rentals by closing or shifting office infrastructure from Tier-1 to Tier 2 and 3 cities. While the companies have returned to work-from-office, WFH and hybrid work culture



are expected to continue over the medium term. Companies that can efficiently manage lease rentals while continuing to provide flexibility to employees will be better placed to retain employees in the industry.

## **Systems and processes**

Many software companies began as small firms run by a group of people. They relied on a few individuals who guided the organisation through various stages of its evolution. As the companies grow, they establish systems and processes and, hence, their reliance on individuals decline. This ensures a degree of replication in its software development methodologies.

We assess the extent to which processes are documented, standardised and improved continuously. One of the indicators of the quality of an organisation's processes is the Capability Maturity Model developed by Carnegie Mellon University's Software Engineering Institute. Indian companies have taken a lead in this area and have been accorded the highest possible Level 5.

Another critical aspect that is assessed is the implementation of secure back-ups and disaster recovery centres to alleviate data loss risks.

## **Financial risk**

For the analysis of the financial risk profile of a software company, we follow the standard criteria used for all service sector companies, articulated in detail in the documents Rating criteria for manufacturing and services sector companies and CRISIL's approach to financial ratios. We also consider the cash buffers maintained by companies to guard against exigencies while managing their acquisition plans.

## **Management risk**

For assessing the management risk profile of a software company, we follow the standard criteria used for all service sector companies, presented in detail in Rating criteria for manufacturing and services sector companies.

## Conclusion

We believe the crucial factors that will ensure the success of a software company are:

- Scale of operations
- Optimal revenue mix
- Diversity in product/ service offering: digital/ traditional, industry vertical, client, and geography
- Position in value chain in service offering
- Extent of repeat business
- Ability to improve billing rate with higher share of digital services
- Ability to successfully integrate mergers and acquisitions
- High employee utilisation and retention of work force
- Use of automation in work processes
- Optimal offshore-onshore employee mix and contract mix
- HR and knowledge management
- Systems and processes

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