

## Insolvencies Involving New Technologies: Challenges Ahead



*Given the growing importance of India's digital economy and the potential for some enterprises in this sector to fail, it is important for practitioners to be aware of some possible features of such cases. This article highlights some of the new technologies that may be encountered and the issues that can be raised, drawing upon international examples to illustrate the problems that could arise and their possible solutions. There will also be challenges ahead for resolution professionals in cases which feature digital technologies, but the IBC, 2016 arguably provides a good framework to enable these cases to be suitably managed with the main ambiguities regarding entitlements to data and the potential for ongoing trading in the interests of customers during insolvency processes.*

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### **1. Introduction**

India is known as a technology powerhouse and its performance in this sector is supported by good company laws and insolvency laws, as well as talented entrepreneurs, workers, startups and established businesses. The country is therefore in a strong position as digital economies gain increasing worldwide importance. India's consumer digital economy has been predicted to be of US\$800 billion value by 2030<sup>2</sup> and this sector as a whole in India is predicted to reach a trillion-dollar value by 2025<sup>3</sup>. Whilst many businesses in this sector will thrive there is inevitable potential for insolvencies for example in the event of rising energy costs. There have already been examples of failures in this sector in India including Nxtgen Datacenter & Cloud Technologies Pvt. Ltd., Rubique Technologies India Pvt. Ltd and TMW Fintech Pvt. Ltd. Cases elsewhere highlight the potential scale of difficulties that these cases could present. In the USA, cloud computing service provider Nirvanix filed for US Chapter 11 bankruptcy protection in 2013 and gave customers two weeks' notice<sup>4</sup>. In the UK the data centre 2e2 collapsed in 2013 and the insolvency administrator demanded £1 million (~₹9.4 Crore) from customers to

<sup>1</sup> I would like to thank Dr Neeti Shikha, University of Bradford, for comments on an earlier draft.

<sup>2</sup> Ankur Pahwa, "India's Burgeoning Digital Economy is Driving Growth in Internet and E-Commerce" EY 4 April 2022, [https://www.ey.com/en\\_in/e-commerce/india-s-consumer-digital-economy-a-us-800b-dollar-opportunity-by-2030](https://www.ey.com/en_in/e-commerce/india-s-consumer-digital-economy-a-us-800b-dollar-opportunity-by-2030)

<sup>3</sup> The Hindi Bureau, "S1-Trillion Scope for Digital Economy: PM Modi" The Hindi 22 June 2022, <https://www.thehindu.com/news/national/india-expecting-75-economic-growth-rate-this-year-pm-modi-at-brics-summit/article65553837.ece>

<sup>4</sup> Discussed in W Kuan Hon and Christopher Millard, "Banking in the Cloud: Part 3 - Contractual Issues" (2018) 34 Computer Law & Security Review 595, 600.

keep the business going while their data was preserved.<sup>5</sup> There is therefore great potential for insolvencies in this sector to cause disruption and significant losses to business and individual customers and major cases could undermine confidence in digital economies. Given the ability of technologies to easily cross borders, damage to the reputation of a digital economy in one country could be to the advantage of rival economies.<sup>6</sup> Practitioners should therefore be prepared for cases in this sector, in which new types of services and properties may be featured. Happily, India's laws are in some respects already well-suited to technology insolvencies.

## 2. Problems of new and complex technologies

In the digital age an insolvency may feature aspects such as cloud computing, both with debtors as providers and users, or transactions evidenced on blockchains or may feature intangible assets such as cryptocurrencies. Each will present complexities in the event of an insolvency. In this short article examples can only be briefly highlighted but some sources will be referenced that discuss each further.

- (i) Cloud computing is useful for business as it enables software, infrastructures and platforms to be accessed remotely, rather than on the customer's own hardware. The benefits of cloud computing include lower costs and scalability, which can enable big data to be processed, but this type of technology also presents risk in the event of insolvency.<sup>7</sup> Business data or information, photos and multimedia data uploaded by customers may be lost. There can also be impacts on other technologies which use cloud computing. For example, artificial intelligence, "AI", applications often rely on the cloud and insolvency could result in unique AI outputs being lost. A problem is that cloud computing can rely on layers of different services and can bring vulnerabilities if any one of these

service providers becomes insolvent. There is a need for continuation of services to enable customers to make alternative arrangements, which will be considered further in part 3 below.

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- (ii) Cryptoassets are digital representations of value or contractual rights using distributed ledger technology (DLT), which are transferred, stored or traded electronically. The most high-profile examples are cryptocurrencies, which have featured in a growing number of cases globally, as assets held by debtors, as well as insolvent exchanges and there have also been some cryptocurrencies which have failed. One issue which has been raised in cases to date is whether cryptoassets are regarded as property and, if so, where ownership of this property lies.<sup>8</sup> Whilst a growing number of cases internationally have recognised cryptoassets as "property"<sup>9</sup> the harder issues have concerned the rights of investors as against insolvent exchanges.<sup>10</sup> Exchanges are largely unregulated and those which have failed have often failed to maintain sufficient funds to satisfy customer claims and in other cases they have not maintained separate customer accounts. Customers have not always been able to establish proprietary claims as a result.
- (iii) Blockchain technologies have been identified as useful for generating operational efficiencies through the elimination of intermediaries of a type who would normally be involved in financial transactions. A blockchain is a distributed online ledger which records and verifies transactions across a distributed network, rather than through a single central authority. In its original format,<sup>11</sup> verification of blocks of transactions is done through a process of

<sup>5</sup> "2e2 Datacentre Administrators Hold Customers' Data to £1m Ransom" ComputerWeekly.com (8 February 2013) < <https://www.computerweekly.com/news/2240177744/2e2-datacentre-administrators-hold-customers-data-to-1m-ransom>>.

<sup>6</sup> For example, Nigeria's digital economy has been impacted by uncertainties regarding the application of law and investors have preferred to use holding companies incorporated in jurisdictions such as Mauritius and the UK: Abubakar Idris, "Why Your Favourite African Startups are Incorporating Abroad" Techcabal 12 December 2019 <https://techcabal.com/2019/12/12/why-your-favourite-african-startups-are-incorporating-abroad/>

<sup>7</sup> See in relation to the UK position Rebecca Parry and Roger Bisson, 'Legal Approaches to Management of the Risk of Cloud Computing Insolvencies' (2020) 20 Journal of Corporate Law Studies 421.

<sup>8</sup> Lee Pascoe and Ilya Kokorin, "Digital Gold: Implications of Crypto Assets under an Insolvency Scenario" [2021, Summer] Eurofenix 12

<sup>9</sup> *Ruscoe v Cryptopia Ltd (in Liquidation)* [2020] NZHC 728

<sup>10</sup> Lee Pascoe, "Cryptocurrency and Insolvency: 2018 the Year in Review" Norton

<sup>11</sup> Rose January 2019 <https://www.nortonrosefulbright.com/en-gb/knowledge/publications/39f45394/cryptocurrency-and-insolvency-2018-the-year-in-review>.

<sup>11</sup> More recently it has been recognised that "proof of work" format is environmentally costly and other models, particularly "proof of stake" are gaining popularity.

miners solving arbitrary mathematical puzzles. There are different types of blockchains and although some are private in nature, restricting usage to those with permission, others such as the Bitcoin blockchain are unpermissioned, so anyone can use them or act as a developer and do so anonymously. Interesting issues are raised around the liability of developers in cases where such blockchains go wrong, for example through hacking. In the UK case of *Tulip Trading Ltd v Bitcoin Association* [2022] EWHC 667 (Ch) a Seychelles company had suffered a hack and sought to pin liability on several Bitcoin developers on the basis of breaches of fiduciary and common law duties. This case illustrates the likely difficulties of holding developers liable in unpermissioned blockchain cases, as on the facts the relationship was not considered to be fiduciary in character nor was any breach of a duty of care in tort found. The case is due to be considered by the Court of Appeal.

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### 3. Problems of continuity of service

Everyone who has worked using the internet will be familiar with the frustrations of a sudden loss of service from an online provider. Customers depend on continuation of supplies of different types of interconnected services in online transactions and there is significant infrastructure dependence on some, including top-level domain name registries,<sup>12</sup> domain name services,<sup>13</sup> internet exchange points (“IXP”) and cloud computing providers. Disruption to any one of these can cause significant losses on a par with the problems created by the banking sector in 2008. There are many other types of service providers

whose financial difficulties would present problems. In June 2021 there was widespread disruption caused by only a one-hour outage at the content delivery network<sup>15</sup> *Fastly*.<sup>16</sup> These problems would naturally be much worse in the event of an insolvency. Whilst the laws in many countries’ present great risks of sudden shutdowns in the event of liquidation the more protective approach of India is, as discussed below, ideally suited to enabling customers to have continued supplies whilst they source alternatives. Of course, customers can also help by diligence in choosing service providers, structuring their usage of services in a way that avoids single points of failure, and making use of services such as software escrow and backups. Backups are only of limited use as, inevitably, where data is stored in the cloud a backup is only likely to be a snapshot of the data at a particular time. In some cases, if software accessed remotely through the cloud becomes unavailable due to an insolvency this will lead to data becoming unreadable and therefore useless. There are other examples of problems that the sudden failures of other essential digital service companies would present. The digital service sector is therefore one that demands a more gradual approach to business closure, to enable customers to recover their data and source alternative services.

In many countries liquidation proceedings can happen rapidly and lead to a shutdown of the debtor’s business. Liquidation can be important for creditors as a debt collection mechanism and, for example, liquidation proceedings in the UK can be opened where a debtor has an unpaid invoice of £750 (approximately ₹68,945) or more, under Insolvency Act 1986, s 123 and United States law also allows involuntary Chapter 7 proceedings to be opened at the request of three or more creditor holding \$10,000 of claims (or one such creditor in a case with fewer than 12 creditors).<sup>17</sup> Such cases, if involving digital service companies, would have the potential to cause significant problems for customers. A liquidator, or trustee in Chapter 7, may not realise the nature of the digital service firm’s business and they may fail to take steps to

<sup>12</sup> These businesses handle the reservation of domain names as well as the assignment of IP addresses for those domain names. It can be regarded as a type of property register. For example, .com names are controlled by Verisign.

<sup>13</sup> The website’s IP (internet protocol) address, which would otherwise be an unmemorable string of numbers, is converted into a more recognisable and memorable name by the DNS. It can be regarded as a phone book. See e.g. Cloudflare, What is DNS <https://www.cloudflare.com/en-gb/learning/dns/what-is-dns/>, accessed 1 November 2021.

<sup>14</sup> IXPs are part of the internet infrastructure, acting as points to connect and exchange internet traffic in more efficient ways. See e.g. Internet Society, Explainer: What is an Internet Exchange Point (IXP)? 22 June 2020, <https://www.internetsociety.org/resources/doc/2020/explainer-what-is-an-internet-exchange-point-ixp/>, accessed 1 November 2021.

<sup>15</sup> The role of a CDN is to speed up internet transactions using proxy servers. CDNs are geographically dispersed and enable faster content delivery by bringing service provision closer to customers.

<sup>16</sup> Neil Miller, “Inside the Fastly Outage: a Firm Reminder on Internet Redundancy” Data Center Dynamics 22 June 2021, <https://www.datacenterdynamics.com/en/opinions/inside-the-fastly-outage-a-firm-reminder-on-internet-redundancy/>

<sup>17</sup> 11 U.S. Code § 303

ensure continuity of service, particularly since there may be limited funds for ongoing trading. Indeed, these procedures are not primarily vehicles for ongoing trading. In Chapter 7 continued trading is possible if in the “best interests of the estate and consistent with the orderly liquidation of the estate” under 11 USC §721. In the UK ongoing trading by a company in liquidation is possible “so far as may be necessary for its continued winding up”, under Insolvency Act 1986, Sch. 4, para. 5. Although this section has been interpreted generously in some cases, permitting continued trading to mitigate environmental risks<sup>18</sup> the approach may not be the same in digital service insolvencies.

It is therefore advantageous that India’s approach to insolvencies prioritises resolution rather than liquidation, as such an approach supports continued trading.<sup>19</sup> A resolution professional appointed in relation to a digital economy business, for example a cloud computing service provider, may find a complex business that is part of wider networks of interconnected services where a sudden shutdown could significantly harm not only direct customers of the firm but also those who use this wider network. Customers could lose access to software and data that they rely upon for their businesses, causing disruption as alternatives may not be readily available and in some instances may not be available at all. The moratorium<sup>20</sup> will assist in enabling continuity of service as it should protect the company against problems with the company’s landlord or with lessors of equipment regarding continued access, utility providers regarding services and e.g. software licensors regarding continued use of the software and this will help continuity of service, either with a view to a successful exit from resolution through the approval of a resolution plan<sup>21</sup> or with a view to a managed closedown of the business prior to a liquidation.<sup>22</sup> The difficulty for an office holder may also be that technology firms tend to operate a lean staffing structure and cases are likely to lead to a high volume of calls from customers but the moratorium should assist in enabling demands for data recovery to be resisted. A resolution professional is likely to be reliant on know-how of existing staff regarding

maintenance of cybersecurity and care should be taken in this regard. Data protection safeguards (if applicable) should be observed if, for example, using customer lists.

Care should also be taken by the resolution professional to respect ownership entitlements regarding data held by the

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business on behalf of customers. There could potentially be greater clarity in the IBC 2016 Act regarding the ownership of digital assets and disputes may arise in cases where such assets are held by service providers such as cloud computing firms. This is a matter that should hopefully have been the subject of agreement between the user and the service provider to avoid uncertainty and the potential costs of establishing implied ownership so that the user’s property does not end up as part of the bankruptcy estate.<sup>23</sup> The IBC section 36(4) excludes from the insolvency estate assets owned by a third party that are in the possession of the debtor and it can be argued that this would exclude customer data from the scope of the estate. The position is not squarely covered, however, in the non-exhaustive list of assets in section 36(4)(a). Therefore, it is prudent for customers to specify in their contracts that they retain ownership of data but in any event, it is strongly arguable that such a term should be implied. A resolution professional would therefore be wise to treat data as subject to proprietary entitlements.

If the business is being closed down plans should be made to facilitate the recovery of data by customers, as meeting the requirements of all may be a long process. In the 2e2 case mentioned above, the administrator of this insolvent data centre estimated that it could take up to 16 weeks for commercial customer data to be returned and therefore the anticipated 180 days’ timescale for resolution proceedings should suffice or, if not, an application for extension can be made<sup>24</sup> and experience indicates that extensions are likely to be granted by the Indian courts.

Where a company enters fast-track liquidation under section 56 of the Insolvency and Bankruptcy Code of

<sup>18</sup> Re Pantmaenog Timber Co Limited [2004] 1 AC 158 per Lord Millet at [63]-[64]; Re Baglan Operations Ltd [2022] EWHC 647 (Ch).

<sup>19</sup> IBA 2016, s 20.

<sup>20</sup> IBA 2016, s 14.

<sup>21</sup> IBA 2016, s 31.

<sup>22</sup> IBA 2016, s 33.

<sup>23</sup> Cesare Bartolini, Cristiana Santos and Carsten Ullrich, ‘Property and the Cloud’ (2018) 34 Computer Law & Security Review 358.

<sup>24</sup> IBA 2016, s 12.

India, the 90-day period would potentially be insufficient to enable the affairs of a digital service supplier to be brought to an end, bearing in mind the experience in the 2e2 case. However, again the section allows the adjudicating authority to extend the time period and, given the experience with Indian courts, there is strong likelihood of time allowances being made. Under section 35(e) of the said law, the liquidator can carry on the business of a company for its “beneficial liquidation as he considers necessary” and the question would be how a “beneficial liquidation” is to be regarded, whether this is only from the perspective of creditors or whether regard can be had to the impact on stakeholders, including customers. Since stakeholders are mentioned in the preamble to the Act it might be argued that a generous approach can be taken.

#### 4. Conclusion

There is clear potential for new technologies to be transformative for India. Progress in the development of this sector can be enhanced through technical improvements, such as increased availability of

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broadband and internet exchange points, but also through legal improvements and effective approaches in insolvencies are part of this.<sup>25</sup> One aspect of where insolvency laws will be important is in the development of approaches that minimise the public impact of insolvencies in this sector, as otherwise there can be severe damage to the interests of businesses and consumers. Failure prevention is also important and there is a need for crisis prevention safeguards for key technologies. There will also be challenges ahead for resolution professionals in cases which feature digital technologies, but the legislation arguably provides a good framework to enable these cases to be suitably managed, with the main ambiguities regarding entitlements to data and also the potential for ongoing trading in the interests of customers during liquidation.

<sup>25</sup> Rebecca Parry, “Building a Legal Framework to Facilitate the Transformative Potential of Digital Economies” (2022) 10 NIBLeJ (forthcoming).

