Risks in the Digital Transformation Contracting
Identification and Mitigation

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Abstract—Business-technology relationship is transforming the future and creating a more convenient user experience. Digital Transformation (DX) is a key in this reform and is affecting all business engagement models, it also triggers a unique ecosystem of joint venture attitudes and complex systems' adoption.

DX is evolving into a sophisticated method of integrating multiple disciplines across the business enterprise and beyond. Major risks have ascended as a result. New contracting dynamics are required to turn complexity into cohesion and to build provider-supplier relationships on facts instead of emotions.

New dimensions are continuously added into the contracting mechanisms and processes due to the increased dependency on service providers and intermediate contractors. This is reducing the client enterprise controls over their processes and technology assets.

Laws can both hinder and promote innovation. It all depends on how good business owners and technical developers can communicate with lawyers and vice versa. Unfortunately, technical and legal domains frequently appear to be separated by a deep valley of mutual misunderstanding leading to multiple risks.

Looking forward, contracts are increasingly described as a "framework for business operations". This represents the evolution from a legal document focused on performance failure to an operational and communications guide which will increasingly be digital. More than just semantics, this is a move towards a portfolio of agreements that embed the relational components needed to achieve mutual objectives and the behaviors that contribute to success.

DX and associated technologies are maturing and evolving, moreover, they are becoming more agile and disruptive in nature. These dynamics are rapidly changing the landscape of contracting, and ultimately necessitating contracting transformation with innovated approaches to get targeted benefits, reduce risks and enhance operational controls.

The main objective of this paper is to provide guidelines to mitigate contracting risks and introduce new contracting styles that are responsive and agile to provide the maximum business value, enhance risk governance and re-invent the rules and obligations in an ever-changing environment.

Keywords—Digital transformation (DX); contracting; frictionless contracts; smart contracting; risks; mitigation; risk governance; agility.

I. INTRODUCTION

Digital transformation is building new future for every organization by humanizing new ways to achieve business goals based on technology initiatives, first by empowering individuals towards more innovation and secondly by creating an ecosystem environment that fosters creativity of process optimization.

In its fullest sense, digital transformation should mean using various technologies to enable new types of innovation and creativity in a domain, rather than simply enhance and support the traditional methods.

Contract management is no longer an administrative task. It is increasingly considered as a management tool required to achieve business integrity, drive performance and support the operational integration. It has a dynamic role to orchestrate change and to make sense of market volatility. Under such conditions, traditional contracts are no longer capable of providing the desired value and mitigating risks.

Like everything in our professional lives, business contracts are changing and being transformed by technology. This transformation is enriching the correlation and cooperation between legal team and the business units in designing, preparing, negotiating, and managing contracts.

The new contracting style in the digital transformation era is applying the same analogy of the "desire paths" that is used in urban and master planning.

In urban planning, when designing communal spaces, architects have been known not to immediately pave the walkways between different structures. Instead, they allow the formation of desire paths by pedestrians. Well-trodden areas where pedestrians traverse the space are flagged as "the desire paths" that will be paved over.

Technology is changing the way people interact with contracts and is enabling greater knowledge application, commercial innovation, business judgment, and behavioral economics. Contracts will be less about cost in the future, and more about relationships. Ultimately, contracts will increasingly be recognized and treated as a critical business asset.

This paper is introducing a jump start to discuss the risks associated with current situation and how to mitigate them. Additionally, it flags some contracting styles to utilize best practices, enable operational flexibility and delivery processes. It is also providing answers to legal practitioners who are trying to generate a structured and systematic contracting approach.

II. RISKS ASSOCIATED WITH DIGITAL TRANSFORMATION (DX) CONTRACTING

There are three general areas to be concerned when drafting a contract: risk and exposure; flexibility to allow for change; and the clarity regarding obligations, deliverables, and expectations.

Risk management practice has presented asthmatic behavior when it comes to contracts management. keeping the Usually, it fails to keep a pace with enterprise strategy and operational objectives. Consequently, it is important to keep a widely open eye on this area to enhance the requirement gathering and the contracting process.

DX will require a contractual approach that embraces agile methods to reduce risks and advance relative interests. This will help client enterprises to avoid the actual problems that lawyers are worried about in traditional contracts.

Understanding technology concepts is important to determine what efforts are reasonable to address risks. Thus, client enterprises must do their due diligence or consult with technology experts who can make trustworthy contractual recommendations.

Technology in general, and DX in particular is promoting the shift to risk-based approaches. This has been brewing for some time and is crucial because DX has no clear casted forms that can cover its entire spectrum.

To be reasonable, the business efforts must be commensurate with the risks presented. As enterprises cannot be protected against every conceivable risk when using DX services, numerous factors should be considered in real life practices. Some of them are listed here.

A. The Shift of Business Nature

Some people assume the nature of DX projects is alike to construction projects which is not the case. Construction projects are relatively predictable, while DX projects are highly uncertain and variable.

The structural and legal aspects of DX contracts vary a little from traditional styles. However, the key difference is the approach to, and understanding of, how the operational process and delivery, and how this is captured in, or intersects with, contracts.

DX projects are not always predictable, and they don't have the entire plan mapped out from beginning to end. There is a starting point, research and development midway checkpoints, followed by a solution process. For such projects where the entire target isn't visible from the outset of the project, bad contracts can lead to poor project planning, risk exposure, liability and weak team structure.

Visibility is increased with plenty of checkpoints along the way in the form of demos, deployments and tests, so that team members and stakeholders are aware of how the project is unfolding. Contracts are required to focus on maintaining high-quality team performance rather than simply defining the delivery date.

B. The Jungle of Existing Laws and Legal Frameworks

Due to the interaction between technology, humanity, business and environment, DX projects and applications may fall under various areas of laws and regulations which may be relevant. These include copyright law, provider liability, transport law, regulations related to standardization and certification, insurance law, tax law, product safety law, medical products law, environmental protection standards, as well as legal issues regarding possible trade restrictions such as competition law or the use of cryptography. Furthermore, the most relevant laws such as liability, data protection and labor laws are applied differently in every country.

C. Multi-Suppliers and Activity Shifting

The industry has seen a significant move toward multi-supplier models over the last several years and this will accelerate in the future. This results in growing multiple heterogeneous environments which may be publicly owned but still need to be harmonized. Contracts need to support a multi-supplier service integration strategy and have tools to measure the suppliers and contractor's achievements and compliance.

Outsourcing is a common method whereby a third party performs a function on behalf of the client enterprise, often when it doesn't have the resources (either time or expertise) to undertake by itself. In DX era there exist two dimensions for outsourcing, one is related to the main service provider, while the other is related to the intermediate subcontractor who is hired directly by the contracted service provider. Agreement should be cascaded to effectively enforce common acceptable use of standards across all parties.

Contracting activity focus far more on soft areas such as knowledge application, commercial innovation, business judgment, graphic design and behavioral economics. Contracts need to be recognized as critical business assets and treated accordingly.

D. Increased Networking and Interactions

DX is characterized by higher degrees of networking and the intensification of interactions and transactions which calls for more vulnerabilities and openness. Issues arise regarding liability for damages of equipment, products, assets and people

More data are being exchanged between humans and machines, also between multiple vendors. The prerequisite for the acceptance of this kind of availability is the protection of sensitive corporate data.

The human-machine cooperation entails new challenges for labor and occupational safety laws. Moreover, social security systems are challenged by those working and living models.

Going forward, technology will change and enrich human intervention through the involvement of artificial intelligence (AI) and machine learning.

E. Performance Monitoring and Unprecedented Analysis

Shifts in risk allocation, new financial and financing models, sophisticated approaches of performance monitoring

have driven change in contracting terms, processes and skills. Contracts are in hot pursuit to cope with such modifications.

An effective implementation of DX will require unprecedented analysis of contract content and process, to provide management with insight about trends, barriers and sources of value. This is transforming contracting from an activity associated with specialist opinion to a more scientific discipline based on facts.

F. Relational Contracting and The Providers' Terms

The trust between the supplier and customer is very important in the DX era. "Relational contracting" is gaining more momentum are increasingly being used instead of the transactional approach. This is swing back from transactional agreements and behaviors that was strong in the past decades.

Additionally, most contracts of digital transformation services are implemented on the provider's terms, thus the degree of negotiability pales in comparison with the contracting model in traditional services especially for well-established large providers who dictate their rules. If the organization expects customization with genuine negotiation of service terms, there should be special considerations of the acquired solutions or components.

G. Measuring Deliverables

Traditional project contracts often include a detailed, prescriptive list of what should be delivered. People prefer over-planning of a project to get a sense that deliverables are fully defined and predictable, just like pizza. This usually is triggered by an illusory command-control behavior.

On the contrary, the final deliverables of DX projects might not be predictable at an early stage where incremental delivery of services and features are encouraged. Some activities are deployed within a time-boxing of fixed scope or pre-defined cycles and milestones.

DX contracts need to avoid specificity and rigidity, but to focus on artifacts that are valuable. Targeting to ensure that money is spent on requirements effectively, even if they were not recognized at the beginning. This will avoid wasting time and money in developing requirements that are not ultimately needed.

H. Change Management

DX projects and initiatives allow for frequent changes and focuses negotiations on the actual delivery that accommodate inevitable changes during the lifetime of the contract. This behavior is a fundamental shift from the traditional mindset that works to reduce change requests. Traditional contracts may prevent agility and make the change disrupting and complex.

The issue of change is largely inherently addressed within the overall philosophy of the agile approach to allow re-prioritization of phases and adaptive iteration without a harsh change management process. Responsive DX mindset encourage stakeholders to look beyond the constraints of contracts toward the bigger picture.

DX contracts usually allows organizations to change featured priorities for free if the total contract work remains the same. It also enables adding new features if low priority items of equal work are removed from the contract.

However, this does not mean that all kinds of change management are dispensed within contractual form. Moreover, pertinent variations may result due to changes in relationships between parties, such as when a party is being acquired by another entity or if a fundamental transformation in corporate direction occurs.

I. Prototyping and Contract Termination

In digital transformation, the concept of termination is linked with change control thus related service should be amenable to change. Prototyping is a common term in DX where a pilot product is created and evaluated prior to going into the next phase.

In contrast to conventional project thinking, early termination may be viewed as a positive, desirable event in an agile project. That is because such activity may not be a failure, it can be an early success or a change in direction. Such concepts may create a bottle neck for legal professionals.

Termination for convenience is a key lever to transform contracts. Favorable terms in DX projects include shorter notice requirements, enhanced rights for partial termination and reduced exposure to early termination fees. Negotiating termination conditions can be challenging if discussed at the time of termination. Moreover, the contract term may be reduced or extended.

III. RISK MITIGATION APPROACHES

DX related contracting must achieve what seems to be impossible to support the ever-changing agile business requirements while protecting the rights and benefits of the client enterprise and service providers.

There is extensive belief from all stake holders that commercial arrangements will continue to shift away from the old world of 'caveat emptor' to an environment where suppliers will accept greater responsibility for results. As part of their due diligence throughout the contracting process, various stakeholders should also participate in the planning and design workshops. Also, in assessing the providers for sufficiency, maturity, reputation and ethics. The contracting team may include members from relevant departments such as strategy, procurement, technology, legal, quality and other concerned divisions.

In addition, it is recognized that innovation and change create an environment of greater uncertainty, driving the need for more agile or flexible contract models. Overall, these developments require improved approaches of planning and negotiation, and a different balance in risk and reward. Some risk mitigations are explored here with moderate depth.

A. Collaborative Planning and Negotiation

Based on strategic relationships, all parties need to act jointly to enhance service mission and support functions on a

shared basis in an agile, correlated and involved manner. This will enable designing and selecting solutions that provide more business value even in a shared model. Consequently, with significant changes and challenges, DX is completely revolutionizing the contracting mindset, and promoting new collaborated, responsive and agile approaches.

Technology itself is moving today from "complicated" bulky units into "complex" systems that comprise multiple independent units. An airplane is a complicated system in which a defect wheel will stop the whole airplane from flying until it is maintained. On the other hand, complex systems are like bird flocks and fish schools that are separate units having a leader to orchestrate their joint behavior. Every unit is fully independent and can be replaced at any stage.

B. Focus on Agility and Flexibility

New systems are expected to offer high degrees of adaptability. For example, a global system must support localized variations in workflows, rules construction and templates. This flexibility will also help companies adapt to new scenarios, such as changes to business processes necessitated by new regulations.

The word "agile" by itself means that something is flexible and responsive. An "agile method" implies the ability to survive in an atmosphere of constant change and emerge with success. Agile provides tools to cope up with such changes in an effective manner. Agile contracting models are needed to balance the risks between both parties and give them the incentive to work together towards the success of the joint project.

C. Enabling an Entire Contract Lifecycle Management (CLM)

Contracting is often a component of other business processes, analytics applied to contract management can be used to automatically launch other workflows. This means users should be able to integrate the business' current tools and processes with the new ones, as well to adapt their user experience to various levels of complexity.

A CLM system can offer a flexible workflow engine that apply business rules based on spend category, geography, industry-specific requirements and more. In addition, it can allow organizations to automatically assemble and orchestrate the contract approval process.

D. The Utilization of Blockchain

Blockchain is a new type of database system that maintains and records data in a way that allows multiple stakeholders to confidently and securely share access to the same data and information. The promise and implications of this technology are so profound, it could revolutionize business practices as we know them.

Block chain enables smart contracts which is a computer code that contains a set of rules that was agreed between parties to be performed "if and when" pre-defined rules are met meaning that the agreement is automatically enforced.

E. Utilizing Complimentary Agreements as Required

Combined with DX contracts there should be some provisions which are important to both the client enterprise and the service providers to define the acceptable behavior of personnel from both parties. Such agreements should be fully contemplated by both prior to procuring DX services.

All agreements need to be incorporated, either by full text or by reference. Service providers enforce common acceptable use of standards across all users to effectively maintain how their environment is utilized according to the Terms of Service Agreements (TOSAs). Non-Disclosure Agreements (NDAs) are required to enforce acceptable personnel behavior of the service providers' staff when dealing with client data and assets.

Service Level Agreements (SLAs) represent an important component under the umbrella of the overall DX contracts. SLAs define acceptable service levels to be provided by the service providers in measurable terms. Software Escrow Agreements (SEAs) are used to ensure the continuos usage of critical business systems by depositing the software source code with a neutral third-party escrow agent. They mitigate the risks that are inherent when an organization relies on third party technology vendors. The software source code is released to the licensee if the licensor vanishes out or fails to maintain and update the software as specified in the license agreement.

F. Considering the Time to Value (TTV)

It is important to put value, agility, risk and ethics in the heart, while generating contracts for DX. This is accomplished by breaking a DX project into various value segments to increase navigation clarity through the chaos and complex features.

The required contracting style need to turn a single contract into successive contracts that provide incremental values and lead to saving the time required to award successful individual contract. Even the administrative cost is outweighed by the potential cost and technical benefits derived from the real value delivery.

Such contracting can also maintain the service provider continuity if a predominant concern of risks occurs among multiple phases. This means that if any phase encounters certain risks, it will be addressed in the next relevant phase. This will reduce the change requests and the different types of incentives. It motivates greater cost control and better performance, nevertheless, incentives can still be applied.

G. Multi-Layered Structure and Payment by Results

Solution providers today encourage client enterprises to contract for few iterations to begin with, instead of signing a comprehensive contract up front. This allows the usage of a service or product on a trial basis to build confidence with the provider and avail a sort of risk coverage.

Consequently, the enterprise does not have to make up the entire vision. It can include changes throughout the journey, making incremental benefits. Termination clause in the contract may provide clients with an option to quit on predefined iteration notices.

Multi-layers contracting support the "minimum revenue commitments" to ensure that any payments are relieved in cases of termination for convenience or expansion into digital services outside the managed services agreement. "Stranded overhead" is similarly treated in cases where selected services are removed or significantly reduced.

H. Frictionless Contract Management

The manual nature of contracts is a bottleneck to innovation, making it hard for the organization as a whole to keep up with the demanding pace of business in today's digital landscape. Three solutions can be called out to support the frictionless contract management.

"Digital contract management" which can automate the flow of money as it enters and leaves the organization, thus allowing faster time to revenue, increased scalability, automated compliance, and greater agility.

"Smart contracts" are computer program that enables the facilitation, execution and enforcement of a set of rules for negotiating the terms of a contract.

"Opportunity contracts" which adopts a different approach that support the understanding, capturing and translating the operational and delivery processes into the contract. This will enhance the mirroring of real-world successful projections and smoothing the contracting effectiveness.

Without this kind of contract automation, companies can be caught flat-footed, because they don't have proper visibility into the customer and low collaboration across the entire spectrum of suppliers and activities.

CONCLUSION

Digital transformation (DX) reinvents organizations using technology to improve performance and better serve the needs of its stakeholders. This is also leading a major reform that is affecting all business engagement models. It has unique features including joint venture attitudes and complex systems' adoption.

Traditional contracts are no longer capable of providing the desired value in the DX era. Several risks exist due to this fundamental shift; but risk mitigations are developing as well. New contracting practices are required to enable operational flexibility, satisfy integration and isolation requirements, manage various providers and orchestrate services.

The emergence of DX and disruptive technologies is a reality and the contracting landscape continues to shift. Practice has shown that plenty of DX features should be well-understood prior to being engaged in a DX contracting processes. This includes, but not limited to, flexible scope, responsive change management, iterative processing, multi-layered structure and agile implementation.

Contracts are being more about relations rather than transactions. More collaboration is invited as legal practitioners alone are no longer capable of drafting effective working contracts. Business, technology and legal professionals must be open-minded and entrepreneurial in adapting to the upcoming changes.

As more collaboration is invited, a contracting team should be established to assess involved providers for sufficiency, maturity, reputation and ethics as part of their due diligence. Members from relevant business departments may be consulted where necessary. Contracting teams are also expected to manage the associated agreements.

This paper only scratches the surface of scale of DX contracts. It is intended to provoke thought and to encourage aspiring practitioners to consider the commercial implications of DX and associated technologies on the contracting behavior.

This paper also discusses how a frictionless contract management can support the business. This includes contract life cycle management; digital contract management; smart and opportunity contracts.

The bottom line is that DX contracts must achieve what seems to be impossible; to support the ever-changing agile business requirements while protecting the rights and benefits of multiple stakeholders.

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