

FROM PRODUCT-CENTERED TO SERVICIZED  
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OF THE UN CONVENTION ON CONTRACTS FOR  
THE INTERNATIONAL CONTRACTS FOR SALE  
OF GOODS

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# FROM PRODUCT-CENTERED TO SERVITIZED INDUSTRY: PLACING PRODUCT-SERVICE INTEGRATION MODEL UNDER THE UMBRELLA OF THE UN CONVENTION ON CONTRACTS FOR THE INTERNATIONAL CONTRACTS FOR SALE OF GOODS

Zlatan Meškić\* & Nevena Jevremović\*\*

## ABSTRACT

Over the last four decades, producers of durable goods recognized the role of services as a tool to increase their competitiveness and achieve long-term growth. Consequently, the producers began to integrate services into their products to satisfy their customers' needs, a process known as *servitization*. Since its introduction in the late 1980s, servitization received practical affirmations and focused on diverse and interdisciplinary research. Nevertheless, legal aspects and considerations, particularly those concerning contracts, are remarkably scarce. This is surprising since challenges in the transition to product-service integration call for a framework that ensures predictability and certainty on the one hand while enabling proactive contract design and management on the other. We aim to fill this gap by examining the application of the UN Convention on Contracts for the International Sale of Goods (the "CISG") on servitized business-to-business ("B2B") contracts.

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The added element of services blurs the lines of classifying a relationship as a sale, service, or mixed agreement. It is reasonable to expect that selling products-services as an integrated unit will lead to issues concerning the qualification of the commercial relationship between producers and its customers and, as a result, increase the legal challenges in an already challenging business environment. That is where the CISG comes into play. The CISG recognizes the dichotomy between the sale of goods and the provision of services in its Art. 3(2). Since the purpose of the CISG is to enable the development of international trade, we offer an interpretation of Art. 3(2) that would enable the CISG to govern contracts arising out of or connected with a servitized business model. The CISG is appropriate to govern these relationships, allowing for a sufficient level of flexibility that parties need to adapt to their specific contracts.

Table of Contents

I.	Introduction .....	91
	A. Setting the Scene: Servitized Business Model and Its Place in Modern Trade.....	92
	B. The Role of the UN Convention on Contracts for the International Sale of Goods in Servitized Business Model .....	96
	C. Boundaries and Structure of the Analysis .....	97
II.	Business Model Innovation: A Transition to Product-Service Integration.....	100
	A. Services as a Differentiating Element for the Producers.....	100
	B. The Transition from Product-Oriented to Product-Service Oriented Model .....	102
	C. A Network of Producers, Suppliers, and Customers to Enable Product-Service Integration.....	104
	D. Product-Service Integration Model in Cross-Border Contracting .....	106
III.	Application of the CISG to Product-Service Integration Contracts.....	110
	A. Economically Preponderant Test in Art. 3(2) CISG.....	112
	1. Economic Value in Product-Service Integration Contracts .....	114
	2. Applying Art. 3(2) Preponderant Test to Product-Service Integration Contracts .....	116
	B. Parties Intent as the Dominant Criteria for Determining Preponderant Obligation in Product-Service Integration Contracts ....	117
	1. Determining Parties' Intent in Product-Service Integration Models.....	119
	2. The Burden of Proof Considerations .....	123
	C. Exclusion of Art. 3(2) CISG by Virtue of Party Intent .....	124
	D. Exclusion of Art. 3(2) CISG by Virtue of PIL Rules Applicable Absent a Choice of Law .....	126
	1. Goods vs. Services as a Problem of Characterization in PIL.....	127
	2. Applicability of the CISG within the Second Characterization in PIL.....	130

E. The CISG as the Appropriate Law to Govern Servitized Transactions: Policy Considerations .....	132
IV. Conclusion .....	135

## I. INTRODUCTION

Over the last four decades, producers of durable goods recognized the role of services as a tool to increase their competitiveness and achieve long-term growth. Consequently, there was an increase in producers developing usage- and performance-based business models.<sup>1</sup> Manufacturers shifted their primary focus from making and selling a product to delivering a comprehensive service through a product; this way, the manufacturer creates value not necessarily in the sale of the product but in providing the service instilled in the product.<sup>2</sup> This process is referred to as *servitization*.<sup>3</sup> Since its introduction in the late 1980s,<sup>4</sup> servitization received practical affirmations and focused on diverse and interdisciplinary research.<sup>5</sup> Yet, legal aspects and considerations, particularly those concerning the servitization

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<sup>1</sup> FRANK MARKS & FRITS ENGELAER, *SERVITIZED BUSINESS MODELS: ORGANIZING FOR SUCCESS 2* (De Lage Landen International B.V., 2017).

<sup>2</sup> *Id.*

<sup>3</sup> Sandra Vandermerwe & Juan Rada, *Servitization of Business: Adding Value by Adding Services*, 4 EUR. MGMT. J. 314, 314 (1988), <https://reader.elsevier.com/reader/sd/pii/0263237388900333?token=0EA96AC2F363F1B237CC2C56AF75A53E264FD1EA28CE44C116F92448137578096E059C2A039C5F3D02A83468E257B9F5&originRegion=us-east-1&originCreation=20211021034000> [<https://perma.cc/SD4W-W4UE>].

<sup>4</sup> *Id.*

<sup>5</sup> See, e.g., Christian Kowalkowski et al., *Servitization and Deservitization: Overview, Concepts, and Definitions*, 60 INDUS. MKTG. MGMT. 4 (2017), <https://reader.elsevier.com/reader/sd/pii/S0019850116303571?token=98B20F056066EAE2A8B22E5F6D3114F398778257A48DE18172901AC09C2523631D5C0B52612C85CCA0DA1D1CA944951C&originRegion=us-east-1&originCreation=20211021033648> [<https://perma.cc/J8QC-ZVJA>]; Clément Chatras & Vincent Giard, *Standardization, Commonality, Modularity: A Global Economic Perspective*, in *ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS: INNOVATIVE PRODUCTION MANAGEMENT TOWARDS SUSTAINABLE GROWTH* 365–75 (Shigeki Umeda et al. eds., 2015); Friedemann Polzin et al., *Exploring the Role of Servitization to Overcome Barriers for Innovative Energy Efficiency Technologies—The Case of Public LED Street Lighting in German Municipalities* (Sci. Pol’y Rsch. Unit Working Paper Series, 2015-07); Ivanka Visnjic & Bart Van Looy, *Servitization: Disentangling the Impact of Service Business Model Innovation on Manufacturing Firm Performance*, 31 J. OPERATIONS MGMT. 169 (2013); Ivanka Visnjic et al., *Another Performance Paradox?: A Refined View on the Performance Impact of Servitization* (ESADE Bus. Sch. Rsch. Paper No. 231) (2012); Martin Spring & Luis Araujo, *Service, Services and Products: Rethinking Operations Strategy*, 29 INT’L J. OPERATIONS & PROD. MGMT. 444 (2009); Tim S. Baines et al., *The Servitization of Manufacturing: A Review of Literature and Reflection on Future Challenges*, 20 J. MFG. TECH. MGMT. 547 (2009); Andy Neely, *Exploring the Financial Consequences of the Servitization of Manufacturing*, 2 OPERATIONS MGMT. RSCH. 103–18 (2008); Andy Neely, *The Servitization of Manufacturing: An Analysis of Global Trends* (2007) (paper Presented at 14th European Operations Management Association Conference); Arman Avadykian & Stephane Lhuillery, *Technological Innovation, Organizational Change and Product Related Services* (2012).

contractual considerations, are remarkably scarce.<sup>6</sup> This is surprising since producers need to rely on an international framework to govern their production and post-production transactions. The need for a regulatory framework of cross-border business-to-business (“B2B”) transactions in a servitized model is even more critical given the impact that transition from a product to a product-service model has on the design, negotiation, and management of the underlying commercial relationships. We aim to fill this gap by examining the application of the UN Convention on Contracts for the International Sale of Goods (“the CISG”) on servitized B2B contracts. Our approach is interdisciplinary as it first considers servitization from a business science perspective, and second, looks at those features through the lens of the CISG and private international law (“PIL”).

A. *Setting the Scene: Servitized Business Model and Its Place in Modern Trade*

The traditional view places the manufacturing of products and the provision of services in two distinct camps.<sup>7</sup> Consequently, a company may be either a manufacturer or a provider of services; one could not combine both in a single offering. Between this clear-cut distinction, products had a lead role.<sup>8</sup> Even if there was a need for certain services, any services provided were usually short-term and focused on manufacturing, i.e., installing a machine or providing repairs.<sup>9</sup> Accordingly, manufacturers defined their commercial strategies using cost as the key indicator of their competitiveness in the market.<sup>10</sup> Manufacturers from the developed

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<sup>6</sup> The role of servitization in a globalized economy attracted attention from legal scholars concerning the impact of trade barriers, incentive, and generally the framework within the WTO system. In the same vein, the classification of the movement of goods and services in the context of the four freedoms of the EU also attracted some attention. See, e.g., Shin-yi Peng, *A New Trade Regime for the Servitization of Manufacturing: Rethinking the Goods-Services Dichotomy*, 54 J. WORLD TRADE 699 (2020); Janja Hojnik, *The Servitization of Industry: EU Law Implications and Challenges*, 53 COMMON MKT. L. REV. 1, 39, 44–48 (2016).

<sup>7</sup> Vandermerwe & Rada, *supra* note 1, at 315–16.

<sup>8</sup> *Id.*

<sup>9</sup> *Opinion of the European Economic and Social Committee on The Impact of Business Services in Industry*, ¶ 2.5 (CCMI/121) (2014) [hereinafter *EESC Opinion (2014)*].

<sup>10</sup> See, e.g., Peter Schlechtriem, *Requirements of Application and Sphere of Applicability of the CISG*, 36 VICTORIA U. WELLINGTON L. REV. 781, 786–87 (2005) (discussing a case in the Austrian Supreme Court). The case involved an Austrian firm that “had brooms produced by a firm in former Yugoslavia from materials mostly supplied by the Austrian party—the economic background being, of course, that labour was much cheaper in Yugoslavia.” *Id.* The court reasoned that the contract did not classify as a contract for sale, but a service contract to process the material supplied. *Id.*

world usually outsourced the production services to emerging economies precisely because of the low cost of labor and materials.<sup>11</sup> They had no incentive to consider services as an add-on to increase value; the costs of such a transition were high, and the performance and profitability would not necessarily materialize in the desired manner.<sup>12</sup> Any need for services related to the product would come as a separate part of the transaction, usually from a different company specialized in the provision of services. As a result of this prevailing practice, conceptually, the sale of goods was separate and distinct from the provision of services related to those goods.

This view began to shift in the late 1980s when scholars recognized a surge in services due to technological development.<sup>13</sup> Internationally renowned academics, Vandermerwe & Rada, defined *servitization* as a business model that integrates products and services.<sup>14</sup> They argued against a simplistic distinction between goods and services due to the complexity of the relationship.<sup>15</sup> Producers began to increasingly integrate services into their products, sell more services, sell and export their know-how, move into consulting services, and offer a comprehensive portfolio

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<sup>11</sup> See Lionel Fontagné & Ann E. Harrison, *The Factory-Free Economy: Outsourcing, Servitization, and the Future of Industry* (NBER Working Paper No. 23016, 2017) (“In the first period, which [Richard Baldwin] refers to as ‘globalization’s first unbundling,’ falling transport costs and freer trade allowed the industrial countries to rapidly industrialize and dominate manufacturing.” (quoting Richard Baldwin, *Factory Free Europe? A Two Unbundlings Perspective on Europe’s 20th Century Manufacturing Miracle and 21st Century Manufacturing Malaise*, in *THE FACTORY-FREE ECONOMY: OUTSOURCING, SERVICIZATION, AND THE FUTURE OF INDUSTRY* (Lionel Fontagne & Ann Harrison eds., 2017))).

<sup>12</sup> See, e.g., Thècle Alix & Bruno Vallespir, *A Framework for Product-Service Design for Manufacturing Firms*, in 338 *IFIP ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS* 644 (2009).

<sup>13</sup> See Vandermerwe & Rada, *supra* note 1, at 314.

<sup>14</sup> *Id.* at 315 (“We believe [the servitization of business] will have a critical impact on the way managers think, act, and do business in the future. It will continue to make the dividing line between manufacturers and service companies less clear, and change some of the relationships and competitive dynamics in which business operates.”).

<sup>15</sup> See *id.* at 314, 315; see also ALESSANDRO ANNARELLI ET AL., *THE ROAD TO SERVICIZATION: HOW PRODUCT SERVICE SYSTEMS CAN DISRUPT COMPANIES’ BUSINESS MODELS* 1 (2019) (“The Servitization of business is from an exclusive focus on products or an exclusive focus on services towards integrated systems or bundles of products and services, with services playing a relevant role.”); Matthieu Crozet & Emmanuel Milet, *Should Everybody Be in Services? The Effect of Servitization on Manufacturing Firm Performance*, 26 *J. ECON. & MGMT. STRATEGY* 820 (2017) (“The servitization of the manufacturing sector refers to the evolution of manufacturers’ capabilities to offer services as complements to or substitutes for the goods that they produce.”); Ferran Vendrell-Herrero et al., *Servitization, Digitization and Supply Chain Interdependency*, 60 *INDUS. MKTG. MGMT.* 69, 71 (2017), <http://www.makers-rise.org/wp-content/uploads/2018/03/Servitization-digitization-and-supply-chain-interdependency.pdf> [<https://perma.cc/MWD7-ET8E>] (“Servitization refers to the process where firms set out to create greater value by increasing the services they offer.”).



to their customers to provide solutions.<sup>16</sup> Changes in the market in the 1990s affirmed this shift, with manufacturers from the developed world moving towards product-service integrated solutions<sup>17</sup> to increase value and consequently their competitiveness in the market.<sup>18</sup> Digitalization continues to enhance the transition to a servitized business model.<sup>19</sup> New technologies open the possibilities for increasingly diverse and complex offerings by allowing them to adopt, design, and deliver connected so-called *smart products*, thereby further changing the way they compete in the market.<sup>20</sup>

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<sup>16</sup> Vandermerwe & Rada, *supra* note 1, at 321. For a discussion on the concept of selling solutions, see Pekka Töytäri, *Selling Solutions by Selling Value*, in PRACTICES AND TOOLS FOR SERVICITIZATION 269 (Marko Kohtamäki et al. eds., 2018).

<sup>17</sup> See Vendrell-Herrero et al., *supra* note 15, at 71 (“Approximately two thirds of product firms in developed countries have . . . adopted a servitization strategy. In addition, on average service revenue of product firms accounts for 30% of their total revenue.”) (citations omitted); see also Crozet & Milet, *supra* note 15, at 825 (“[S]ervitization is quite common strategy among French manufacturing firms: Almost 75% of the firms in our sample produce some services for third parties . . . . This figure varies substantially by sector, ranging from 55% in the food, beverage and tobacco industry to 88% in the chemical and plastic products industry. The share of servitized firms has increased in every industry between 1997 and 2007, with the exception of the mechanical and electrical equipment industry.”).

<sup>18</sup> Vendrell-Herrero et al., *supra* note 15, at 71 (“At a theoretical level the addition of services in product firms seems to be an important element in enhancing the value of a products’ technical performance and securing a competitive position in a supply chain.”); see also Crozet & Milet, *supra* note 15, at 822 (“Servitization can also enable firms to differentiate their products from those of their competitors, increase customer loyalty, and increase market values or increase profitability.”) (citations omitted).

<sup>19</sup> Vendrell-Herrero et al., *supra* note 15, at 71; see also Bård Tronvoll et al., *Transformational Shifts Through Digital Servitization*, 89 INDUS. MKTG. MGMT. 293, 293–94 (2020), <https://reader.elsevier.com/reader/sd/pii/S0019850119300884?token=21B27E2B96EEE0DF4589985AC8986D971191510320F6553916A131E412CD4113BFA570D05E804F0FE5D47CA7CA3C7CBA&originRegion=us-east-1&originCreation=20211021042126> [<https://perma.cc/ZS87-2NYH>] (“[S]uccessful digital servitization depends on *digitalization*, which refers to the use of new digital technologies to enable major business improvements and includes socio-technical structures that extend beyond technical processes.”) (citations omitted); Alexey Sklyar et al., *Resource Integration Through Digitalisation: A Service Ecosystem Perspective*, 35 J. MKTG. MGMT. 974 (2019); Avadykian & Lhuillery, *supra* note 5.

<sup>20</sup> See, e.g., Tronvoll et al., *supra* note 19, at 294 (“Manufacturing firms can use digital data streams to provide integrated customer support, to increase the automation of support processes, facilitating a shift from a reactive break-and-fix approach to a proactive service culture and ultimately enabling customers to solve their own problems. [One 2011 study] reported that service-related data processing and interpretation is a critical capability for manufacturers pursuing servitization, whether for differentiation or cost leadership advantage.”) (citations omitted).

Producers increasingly recognize that services can go beyond the classical after-sales activities to be integrated with a product to satisfy customer needs.<sup>21</sup> To achieve this integration, they transition from a pure product orientation to a combined product-service orientation; their goal is to deliver an integrated offering with services that enhance the product's functionality and increase its value-in-use. Such a transition comes with its share of challenges since it requires an adaptation of the internal capabilities, structures, and resources.<sup>22</sup>

Despite the logistical challenges, servitization is appealing due to the potential for better market performance, increased competitiveness, and the increased predictability of revenue streams. Due to their resilience to economic cycles, services offer higher profit margins and a more stable stream of revenue than goods.<sup>23</sup> Services further provide companies with an opportunity to make a strategic shift and offer a total solution that delivers value to their customers.<sup>24</sup> Additionally, some scholars stress the environmental reasons that are gaining momentum in international trade—servitization is an innovative business model with companies continuously redefining their contracts between customers and suppliers to reduce resource consumption.<sup>25</sup> Servitization is not just an innovative solution for businesses to maximize their profits and remain competitive; it also serves as a possible solution to achieve society's broad sustainable development goals, such as sustainable consumption and production patterns.<sup>26</sup>

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<sup>21</sup> See, e.g., Alix & Vallespir, *supra* note 12, at 651 (“Manufacturers propose services around the products they deliver to increase their competitiveness and reach objectives of profitability satisfying specific customer needs. Loyalty can be obtained under the condition that isolated offerings are replaced by integrated value adding solution composed of a product and of one or more product-service. The design of such solution requires to take account of four narrowly overlapping dimensions: the product, the product-service, the process and the organization.”); see also Hojnik, *supra* note 6, at 26 (“If a manufacturer wants to keep a long-term relationship with a customer to attain a return on its investment, it has to be responsive to the customer’s needs.”).

<sup>22</sup> See, e.g., Spring & Araujo, *supra* note 5.

<sup>23</sup> Riham Adel & Stefan Alexander Wiesner, *Conceptual Approach for Value Driven Performance in Servitising Companies*, 21 INT’L J. SERV. & OPERATIONS MGMT. 504, 508 (2015).

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*; see also ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS: SUSTAINABLE PRODUCTION AND SERVICE SUPPLY CHAINS: PART II 415 (Vittal Prabhu et al. eds., 2013).

<sup>26</sup> See, e.g., G.A. Res. 70/1, Transforming Our World: The 2030 Agenda for Sustainable Development ¶ 67 (Oct. 21, 2015). The 2030 Agenda specifically calls to businesses to innovate to achieve the UN SDGs. In the context of sustainable consumption and production patterns, the product-service systems are considered a possible solution. *Id.*; see also Frank Tietze & Erik G Hansen, To Own or to Use? How Product Service Systems Facilitate Eco-Innovation Behavior (2013) (paper presented at the Academy of

The added service element blurs the lines between a sale, service, or mixed agreement.<sup>27</sup> It is reasonable to expect that selling products and services as an integrated unit will lead to issues concerning the classification of commercial relationships between producers and their customers, increasing the legal challenges in an already challenging business environment. Additionally, contracts for the sale of goods are traditionally short-term, whereas servitized business models require a more complex long-term relationship. To successfully maintain this relationship, both parties require a relational perspective to consider the interests of both parties when approaching these contracts. These contracts should operate as a framework to address and manage risks, such as non-performance, a change in circumstances, hardship, and *force majeure*, with the terms focused on preserving the relationship. Aside from the company-level benefits, servitization is finding its place in governmental policies, especially in seeking to identify incentives for re-industrialization and ways to increase the competitiveness of companies in the global market.<sup>28</sup>

*B. The Role of the UN Convention on Contracts for the International Sale of Goods in Servitized Business Model*

The challenges that come with the transition to a servitized offering call for a framework that ensures predictability and certainty on the one hand and enables

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Management Meeting in Orlando, Florida) (proposing a more formal argument for why product-service system innovations can contribute to diminishing environmental externalities concept as it impacts firm innovation behavior towards more environmentally friendly directions).

<sup>27</sup> To resolve issues concerning contract classification, some authors suggested an interpretation stemming from Article 2 of the Uniform Commercial Code (“UCC”). See, e.g., Peng, *supra* note 6, at 718–19 (discussing the “predominant purpose” test of Article 2 to classify a mixed agreement as either sale of goods or services). Others focused on the classification of the contracts in the context of the existing EU directives and the practice of ECJ. See, e.g., Hojnik, *supra* note 6, at 39 (“The ‘functional equivalents’ approach may be seen as another tile in a mosaic, supported by many authors, who advocate a unified approach to goods and services under EU free movement law, mostly as part of the re-conceptualization of the market freedoms as economic rights to which all EU citizens are entitled. The servitization trend that blurs the distinction between goods and services with many forms of overlapping is thus another potential motivation for the ECJ’s acceptance of a more convergent approach between the freedoms.”). Some authors considered servitization a trend, advocating for a need of a new international legal instrument that can respond to the challenges of global trade. See TRIPODI LEANDRO, TOWARDS A NEW CISG (2015).

<sup>28</sup> See, e.g., Crozet & Milet, *supra* note 15, at 820 (discussing the relevance of “the deeper integration of the production of goods and services” to policymakers in high-income countries who worry about the decline of manufacturing production and employment in their economies).

proactive contract design and management on the other.<sup>29</sup> That is where the CISG comes into play. The CISG recognizes the dichotomy between the sale of goods and the provision of services in its Art. 3. Since the purpose of the CISG is to facilitate the development of international trade,<sup>30</sup> our goal is to offer an interpretation of Art. 3 that would enable the CISG to govern contracts arising out of or in connection with the servitized business model. The CISG is the appropriate framework to govern these relationships, allowing for a sufficient level of flexibility that parties need to adapt to their contracts.

Before we embark on the task of outlining the essential features of the servitized business model and the application of the CISG's Art. 3, we find it necessary to clarify the boundaries of our analysis.

### C. *Boundaries and Structure of the Analysis*

We are aware that there are different servitized business models with various forms of integration between products and services. Our focus will be on models resulting in one single offering. The integration can be physical, making the services a feature of the product's functionality and performance. The integration can also be functional, making the services an add-on to the product to increase ease of use on the user's side. In either case, the ownership of the product transfers from the producer to the customer—this is essential in the CISG's application in these transactions.<sup>31</sup>

Other models of product-service integration that envisage services as the central part of the integration, such as product-service systems ("PSS"), are not within the scope of our analysis. Within such models, the tangible product is a vessel for providing services; customers may use it through, for example, lease agreements,

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<sup>29</sup> For a discussion of the concept of proactive contract management, see Nevena Jevremović, *CISG and Contracting Practice: Facilitating Negotiation of Contract Terms*, 38 J.L. & COM. 189, 195 (2020) (citing Kaisa Sorsa et al., *Proactive Contracting and Risk Management*, in PROACTIVE MANAGEMENT AND PROACTIVE BUSINESS LAW 175 (Kaisa Sorsa ed., 2011)), <https://jlc.law.pitt.edu/ojs/jlc/article/view/174/159> [<https://perma.cc/9NXU-GKSD>].

<sup>30</sup> United Nations Convention on Contracts for the International Sale of Goods, pmbl., Apr. 11, 1980, 1489 U.N.T.S. 3 ("Being of the opinion that the adoption of uniform rules which govern contracts for the international sale of goods and take into account the different social, economic and legal systems would contribute to the removal of legal barriers in international trade and promote the development of international trade . . .").

<sup>31</sup> See, e.g., Tietze & Hansen, *supra* note 26, at 11 ("[P]roduct innovators sell their products to customers, while PSS innovators maintain product ownership and use their products as means for offering services to users.").

but the producer retains the ownership rights.<sup>32</sup> With the essential elements of a sale transaction missing, we do not deem it relevant for analyzing the CISG's application.

The role of a customer is central in the servitized model. Producers aim to integrate services with their products precisely to meet their customers' needs. Business science uses the terms *customer* and *consumer* almost interchangeably.<sup>33</sup> We understand such a lack of differentiation to mean that, from a business perspective, whether a customer is an individual or a business entity bears no impact on the design of the business model. Producers consider their needs given the particularities of a given industry and their own commercial goals. Therefore, the term "customer" for CISG analysis means a legal entity acting as a buyer in the servitized model constellation.

The customers' dominant role may lead some legal academics or practitioners to see hints of *personal use* of the integrated offering, making the product-service integration a business-to-consumer ("B2C") transaction. If this is the case, Article 2(a) of the CISG will exclude those transactions from its scope. However, such an argument stems from the wrong premise. Producers consider customers' needs irrespective of whether they make a durable product or a product with integrated services. The latter is more appealing to producers because services become an added feature of the product, making it more attractive to the end-users and, therefore, more competitive in the market. Satisfying customer needs does not affect the contract's underlying qualification since it is not a matter of the product's personal use but a feature of the product that compels purchase. With the outlined framework in mind, we structure our work in two main parts.

In the first part, we explain the servitized business model from the perspective of producers. We specifically focus on explaining product-service integration as a business model, the transition from a product-centered to a product-service oriented

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<sup>32</sup> *Id.*; see also Hojnik, *supra* note 6, at 6 ("One of the most archetypal examples of innovative servitization is Rolls-Royce's airplane rental model (called *Power-by-the-Hour*)—and by adopting sensors that are able to monitor the airplane's engine status 24/7 (*TotalCare* programme), Rolls-Royce considerably simplified the maintenance process. Similarly, Xerox developed a cost-per-print model for their photocopying machines, and French train manufacturer Alstom has introduced 'train life services', [sic] offering maintenance and parts supply services to transport companies. Although Volvo is essentially a car manufacturer, it is nowadays also involved in the wide spectrum of activities associated with automobile transportation, ranging from insurance to gas stations and roadside assistance, and currently even developing a vehicle that can, via smartphone, alert a mobile fuel supplier to come and top up the tank when the car is parked.") (footnotes omitted).

<sup>33</sup> See sources cited *supra* note 6 (using "consumer" and "customer" interchangeably throughout the text).

model, and the diversity of the resources producers need to implement such transition successfully. While our focus is on the post-production contracting processes, we recognize that the business model features impact the structure and terms of contracting practices. The challenges producers face to ensure a profitable transition will depend mainly on their ability to design and manage the multitude of contractual relationships necessary to ensure the relevant resources. Having the CISG govern these relationships within a uniform framework of international law is essential for producers.

In the second part, we analyze the CISG's applicability through the lens of its Article 3(2), which recognizes the sale-service dichotomy. The provision seeks to qualify a contract as a sale or service through the preponderant part test to determine whether the CISG applies.<sup>34</sup> If the preponderant part of a transaction is a sale, the CISG will apply.<sup>35</sup> In order to determine the preponderant element, the prevailing opinion in literature is to compare the economic value between the sale and the service.<sup>36</sup> When considering the unique and complex features of product-service integration, such an interpretation leads to conflicting results and may hinder the development of servitized models. Instead, we argue that the prevailing test should be party autonomy as set out in Article 6 of the CISG and determined under Article 8 of the CISG. We also look at the expression of parties' intent in choosing the CISG as the governing law and problems that may arise in the absence of such choice. The

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<sup>34</sup> *Id.* art. 3(2) ("This Convention does not apply to contracts in which the preponderant part of the obligations of the party who furnishes the goods consists in the supply of labor or other services.").

<sup>35</sup> For decisions where the courts considered Article 3(2) as an element to decide whether the CISG applies, see Landgericht Landshut, Germany, 12 June 2008, IICL PACE LAW CISG DATABASE (2020), <https://iicl.law.pace.edu/cisg/case/germany-lg-aachen-lg-landgericht-district-court-german-case-citations-do-not-identify-134> [<https://perma.cc/X8WS-UKM3>]; Société K... Gesellschaft v. S.A. Q..., Cour d'appel de Colmar, France, 26 February 2008, IICL PACE LAW CISG DATABASE (2019), <https://iicl.law.pace.edu/cisg/case/france-ca-aix-en-provence-ca-cour-dappel-appeal-court-soci%C3%A9t%C3%A9-k-gesellschaft-v-sa-q> [<https://perma.cc/CU5A-WVZL>]; TeeVee Toons, Inc. & Steve Gottlieb, Inc. v. Gerhard Schubert GmbH, U.S. District Court, Southern District of New York, United States, 23 August 2006, <http://www.unilex.info/cisg/case/1137> [<https://perma.cc/H2WJ-K7YA>].

<sup>36</sup> For a discussion on this point, see CONTRACTS FOR THE INT'L SALE OF GOODS ADVISORY COUNCIL, CISG ADVISORY COUNCIL OPINION NO. 4: CONTRACTS FOR THE SALE OF GOODS TO BE MANUFACTURED OR PRODUCED AND MIXED CONTRACTS (ARTICLE 3 CISG) (2004), <https://digitalcommons.pace.edu/cgi/viewcontent.cgi?article=1095&context=pilr> [<https://perma.cc/2KFB-RTA2>] [hereinafter CISG-AC OPINION NO. 4]. For decisions where courts have compared the economic value of obligations concerning supply of services versus sale of goods to determine the preponderant element, see Hof van Beroep Ghent, Belgium, 14 November 2008, IICL PACE LAW CISG DATABASE (2019), <https://iicl.law.pace.edu/cisg/case/belgium-november-14-2008-hof-van-beroep-appellate-court-volmari-werner-v-isocab-nv> [<https://perma.cc/E9GR-3VQN>].

analysis will show that when the parties opt to use the CISG, Article 3(2) should not apply. Even in the absence of such explicit choice, the rules of private international law would lead to applying the CISG. We conclude our discussion with policy considerations concerning the appropriateness of the CISG in governing relevant contracts arising out of, or concerning, this model.

## II. BUSINESS MODEL INNOVATION: A TRANSITION TO PRODUCT-SERVICE INTEGRATION

The servitized business model, also known as a product-service system, is essentially the integration of products and services into one offering. This integration may take on various forms and occur on various levels. Manufacturers generally choose to either add on the services they created or physically integrate them into the product, evolving primarily to their customers' needs.<sup>37</sup> Certain producers—like ArcelorMittal, one of the largest steel producers in the world—add a bundle of services to their product, such as training and education services, to enable their customers to use the product effectively.<sup>38</sup> Others—such as Indesit, a leading appliance manufacturer and distributor, and TP Vision, a producer of consumer electronics—embed technology-empowered services to the product, increasing its functionalities and ease of use.<sup>39</sup> A successful product-service integration results from a complex transition from a product-oriented to a product-service model.

### A. Services as a Differentiating Element for the Producers

Traditionally, a product-centered manufacturing company defines its competitiveness by differentiating its product's functionalities, quality, and pricing from other players in the market.<sup>40</sup> The producers were not concerned with services simply because they did not play a role in the customers' decision-making process; there is hardly any service integration within such a product-centered model.<sup>41</sup>

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<sup>37</sup> Vandermerwe & Rada, *supra* note 3, at 315.

<sup>38</sup> ANNARELLI ET AL., *supra* note 15, at 69.

<sup>39</sup> See Adel & Wiesner, *supra* note 23, at 517–23 (discussing the business model of four European business companies, including TP Vision and Indesit).

<sup>40</sup> See Stefan Wiesner & Klaus-Dieter Thoben, *Requirements for Models, Methods and Tools Supporting Servitisation of Products in Manufacturing Service Ecosystems*, 1 INT'L J. COMPUT. INTEGRATED MFG. 191 (2016); see also Syed Aamir Ali Shah et al., *Servitization and Supply Chain Integration: An Empirical Analysis*, 229 INT'L J. PROD. ECON., issue (c), Apr. 2020.

<sup>41</sup> Frédéric Ponsignon et al., *Servitization and Supply Chain Management: Preliminary Evidence from a Servitized Organisation 2* (Apr. 2015), <https://www.researchgate.net/publication/277587113> [<https://perma.cc/B9LN-7JX7>] (“Oliva and Kallenberg (2003) argue that manufacturing organisations that

Today, services form a part of the product and support its functionality. Customers purchase integrated products because of the added services. Essentially, producers opt for a servitized business model to differentiate their offering on the market, remain competitive or increase their competitiveness, and obtain and retain their customers' loyalty.<sup>42</sup> The integration of services ultimately plays a vital role and adds valuable features to their product.<sup>43</sup>

Producers may include several variants of the product-service integration depending on their value proposition.<sup>44</sup> A value proposition is the promise of value delivered by a product; it specifies what makes the product attractive and why a customer should purchase one product over the other.<sup>45</sup> Depending on the customer's goals, there are three readily apparent categories of value propositions: base, where the customer only relies on a manufacturer to supply the product; intermediate, where the customer relies on a manufacturer for significant repairs; and advanced, where the customer contracts the capability offered through the use of the product and relies on the manufacturer to take care of all repairs and maintenance of the product to continue its use.<sup>46</sup> Value propositions often depend on the completeness of such integration with services "applied to the customer's problem."<sup>47</sup> Companies in different manufacturing industries—irrespective of their business model—recognize

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produce core products and equipment, with service elements purely as add-ons, are located at one extreme of the product-service spectrum.”).

<sup>42</sup> See, e.g., *id.*; see also Daniel Kindström & Christian Kowalkowski, *Service Driven Business Model Innovation: Organizing the Shift from a Product-Based to a Service-Centric Business Model*, in BUSINESS MODEL INNOVATION: THE ORGANIZATIONAL DIMENSION (Nicolai J. Foss & Tina Saebi eds., 2015); Alix & Vallespir, *supra* note 12, at 645.

<sup>43</sup> Alix & Vallespir, *supra* note 12, at 645.

<sup>44</sup> Ponsignon et al., *supra* note 41, at 2 (“As firms move along the continuum they incorporate more product-related services into the value proposition, the relative importance of service elements increases and the relative importance of tangible goods decreases.”).

<sup>45</sup> See generally Alexandra Twin, *Value Proposition*, INVESTOPEDIA (July 05, 2020), <https://www.investopedia.com/terms/v/valueproposition.asp> [<https://perma.cc/4VDF-FM78>].

<sup>46</sup> See Tim Baines et al., *Servitization of the Manufacturing Firm: Exploring the Operations Practices and Technologies That Deliver Advanced Services*, 34 INT'L J. OPERATIONS & PROD. MGMT. 2 (2013) (describing three categories of value propositions, referred to as base (i.e., product provision), intermediate (i.e., maintenance of product condition) and advanced (i.e., capability delivered through product performance)).

<sup>47</sup> Ponsignon et al., *supra* note 41, at 2 (“Penttinen and Palmer's continuum (2007) classifies value proposition in terms of their degree of completeness. A more complete offering exhibits higher levels of service, which they define as the application of specialized competences (knowledge and skills) through deeds, processes, and performances. This 'service' is applied to the customer's 'problem.' [sic]”).



this.<sup>48</sup> For example, a company producing televisions in the Netherlands is embedding software to enable smart TV features, while Italian company Indesit is embedding technology to increase the features on their washing machines.<sup>49</sup> Notwithstanding the complete automation of self-driving cars, the car industry also adds software features to increase product functionality.<sup>50</sup>

In practice, however, many companies face challenges in the design of the integrated offering and methods of integration, mainly when the integration includes digitized services or different forms of data capture and processing technology.<sup>51</sup> One must recognize that a shift from a product-centered to servitized business model is a wide-scale change that involves changes to the organizational structures, mission, and strategies.<sup>52</sup>

### B. *The Transition from Product-Oriented to Product-Service Oriented Model*

Transitioning to a product-service oriented business model often “result[s] in a new-to-the-firm (that, of course, also may be new-to-the-industry) configuration of business model elements, opening opportunities for novel benefits for the firm, its

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<sup>48</sup> See sources cited *supra* note 40.

<sup>49</sup> See Adel & Weisner, *supra* note 23, at 515.

<sup>50</sup> See, e.g., Felix Genzlinger et al., *Servitization in the Automotive Industry: How Car Manufacturers Become Mobility Service Providers*, 29 BRIEFINGS IN ENTREPRENEURIAL FIN. 215 (2020).

<sup>51</sup> For a discussion on design, see Alix & Vallespir, *supra* note 12, at 644 (“Underlying objective of profitability can be reached under the condition that firms manage all the changes that are necessary to deliver a service, as well as the transition allowing to reach the stable condition of product-service high value solution provider.”). For a discussion on challenges generally, see Kindström & Kowalkowski, *supra* note 42, at 7 (“Given that many firms experience difficulties, such as not being able to communicate the value of services to customers and to get access to the needed resources, when selling and delivering services in product-centric firms, the process element is further divided into three distinct processes—development, sales, and delivery—each with specific organizational requirements.”) (citation omitted). For a discussion on challenges concerning digitalized elements of integration, see Tronvoll et al., *supra* note 19, at 293–94; Shah et al., *supra* note 40, at 4 (“Servitization encompasses a range of changes within the firm e.g., reconfiguration of organizational resources, capabilities and internal structures and a renewal of organizational goals, practices and values.”). For a discussion on both enablers of digital servitization and obstacles it brings, see Vendrell-Herrero et al., *supra* note 15, at 69 (“First, digital services often substitute (or cannibalize) traditional products, which is challenging in terms of business model implementation. Second, once digital services are created the marginal cost of producing new units is practically zero, which reduces the customers’ perception of the value created by the offering.”) (citations omitted).

<sup>52</sup> Kindström & Kowalkowski, *supra* note 42, at 1.

customers, and/or other actors in the value network.”<sup>53</sup> Business model innovation is a complex and robust process.<sup>54</sup> It is also necessary; if the established companies do not innovate and adapt to the changes in the market, they risk being left behind.<sup>55</sup> The scale of change depends on the companies’ ability to use the existing structures, resources, and capabilities to deliver the required shifts.<sup>56</sup> Numerous factors play a role in this process, determining whether the transition will be successful or not.<sup>57</sup> Because of the challenges and associated risks, the companies first move with lower product-service integration forms.

The transition process may begin with an entry into the service market by offering basic product-related services; this allows the manufacturers to evaluate and analyze the use of their products, and in doing so, understand their customers’

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<sup>53</sup> *Id.*

<sup>54</sup> *See id.* at 6–7 (“A business model innovation can also disrupt an entire market, or industry, and the inherent business logic of that market or industry. Typical examples of the potential disruptiveness of this process include the computer manufacturer Dell with its Build-To-Order business model that redefined the computer industry and online bookseller Amazon.com’s disintermediation model that not only redefined the book industry but also influenced how firms in general did business online.”) (citations omitted).

<sup>55</sup> *See, e.g., id.* at 6 (“Examples here are many but a good case in point is the Finnish mobile phone manufacturer Nokia who has lost its seemingly insurmountable lead in the mobile phone market to new actors such as Apple and Samsung due to its inability to adjust to changes in, or shape, the competitive landscape.”).

<sup>56</sup> *See, e.g.,* Vinit Parida et al., *Reviewing Literature on Digitalization, Business Model Innovation, and Sustainable Industry: Past Achievements and Future Promises*, 11(2) SUSTAINABILITY 391 (2019) (“Numerous business-model innovation-related challenges have been reported in the literature. For example, a key challenge for many companies is identifying, selecting and implementing customized digital innovations to benefit their operations. Another challenge relates to the need for better understanding of how to design, customize, evaluate, and sell/purchase intangible offerings.”) (citations omitted); *see also* Eva Böhm et al., *Service transition: A Viable Option for Manufacturing Companies with Deteriorating Financial Performance?*, 60 INDUS. MKTG. MGMT. 101 (2017); Ornella Benedettini et al., *Examining the Influence of Service Additions on Manufacturing Firms’ Bankruptcy Likelihood*, 60 INDUS. MKTG. MGMT. 112 (2017); Thomas Igou et al., *Aftermarket 2019 Benchmark Survey Report*, COPPERBERG (2019), <https://www.copperberg.com/aftermarket-2019-benchmark-survey-report/> (illustrating that the biggest challenge for companies in adapting their business models is digital transformation and transitioning to a more service-oriented business models).

<sup>57</sup> *See, e.g.,* Tronvall, *supra* note 19, at 293–94 (“Prevailing mindsets, structures, practices, and strategies tend to inhibit rather than support such change, especially when it is disruptive. . . . [T]ransformation depends on the development of a comprehensive service-oriented mindset. This is crucial but challenging, as it demands both learning and the ability and willingness to unlearn and abandon obsolete (product-related) routines in favor of more effective behaviors. . . . [T]he impact of the change [brought through the use of data and technology] will depend on the firm’s service strategy and its capacity to exploit digital technology as a catalyst for servitization.”).

needs.<sup>58</sup> Basic services focus on enhancing the product's functionality, durability, and value.<sup>59</sup> These services are easy to standardize, are not too complex, and do not require relational elements in the supply chain; consequently, it is challenging to differentiate the product on the market, ultimately leading to a drop in the product sale.<sup>60</sup>

Once sufficient data is collected, the company integrates an advanced, sophisticated set of services that reflect their customers' needs.<sup>61</sup> Advanced services allow a higher level of customization, are high in complexity, and require relational contracting elements with the customer. They are considered more resilient to economic and price-based competition, resulting in higher profitability levels for the manufacturing company for a prolonged period.<sup>62</sup>

### C. *A Network of Producers, Suppliers, and Customers to Enable Product-Service Integration*

Supply chain integration enables servitization models that require a mix of resources to deliver products and services jointly, to integrate all parties involved into a single system.<sup>63</sup> It emphasizes integrating suppliers through long-term agreements to create a framework for day-to-day information sharing and decision-

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<sup>58</sup> For a discussion in the context of digital transformation, see Igou et al., *supra* note 56, at 9 (discussing that companies need to understand their customers' needs and preferences).

<sup>59</sup> Shah et al., *supra* note 40, at 4.

<sup>60</sup> *Id.* at 5 ("The provision of basic services caters to the basic product functionality which may lead to increased product life cycle. These services are more prone to being copied due to the standardization, low complexity, and lack of relational nature of these services. Basic services do not provide a significant differentiation and firms offering basic services may have to compete with two of the major competitor types, the buying firms own internal maintenance units and the specialist service providers in the market who excel in providing services only. Thus, service sales margins will tend to be low or even negative for the provision of basic services given the cost of setting up such services. Moreover, extended product life cycle due to the provision of basic services may lead to product substitution effects in favor of basic services. Therefore, the manufacturing firm may experience drop in the product sales compensated by the increase in the sale of basic services.") (citations omitted).

<sup>61</sup> *Id.*

<sup>62</sup> *Id.* at 5, 12; see also Alix & Vallespir, *supra* note 12, at 1 ("Even if currently the way of doing of industrialists is far from a co-design product-service system concept . . . , a survey performed during the summer 2008 . . . has shown that most of the services proposed by big manufacturing companies are dedicated to the core product and that they are developed accordingly. For the most part, they are completely integrated in the product offer (for 75% of them) and performed by the manufacturing company (for 95%).") (citations omitted).

<sup>63</sup> Shah et al., *supra* note 40, at 4–6.

making processes.<sup>64</sup> Additionally, it allows customers to serve as partners who participate in the co-creation and knowledge sharing necessary to design and deliver the integrated offering.<sup>65</sup> Such complex, dynamic, and value-creating relationships<sup>66</sup> require a different approach to supply chain management.<sup>67</sup> Managing the different relationships entails understanding each relationship's role within the supply chain, understanding the drivers and enablers of its organizational behavior, and discerning the nature of each relationship between other companies in the supply chain.

Some commentators rely on the resource-dependent theory, which examines the effect of external resources such as raw materials on organizational behavior within the supply chain in the servitization process.<sup>68</sup> The source of power is the company's access and control over resources; therefore, its place and power in the supply chain depend on its ability to gather, alter, and exploit raw materials compared to its customers.<sup>69</sup> It is in the company's strategic interest to build relationships with its suppliers. Companies within a supply chain are mutually dependent on acquiring and controlling resources—greater access allows companies to achieve their organizational goals better.<sup>70</sup> Strengthening supplier relationships is particularly

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<sup>64</sup> *Id.* at 2 (“[C]ustomer integration refers to the extent to which an organization considers its customers not just consumers but also partners to work with collaboratively to meet the demand of the customer more efficiently and effectively. It involves both, the engagement of the focal firm with the customer to understand the dynamic customer requirements and making customer capable of engaging with the focal firm to better appreciate and participate in the value cocreation.”) (citations omitted).

<sup>65</sup> *See, e.g.,* Adel & Wiesner, *supra* note 23, at 509; *see also* ANNARELLI ET AL., *supra* note 15, at 31–51.

<sup>66</sup> *See, e.g.,* Adel & Wiesner, *supra* note 23, at 509.

<sup>67</sup> Supply chain management (SCM) encompasses the efforts involved in delivering and producing products and services in the value chain. *See generally* Shah et al., *supra* note 40, at 4–6; Rajesh Kumar Singh & Ravinder Kumar, *Supply Chain Management in SMEs: A Case Study*, 7 INT’L J. MFG. RSCH. 165 (2012).

<sup>68</sup> The theory originated in the 1970s with the publication of JEFFREY PFEFFER & GERALD R. SALANCIK, *THE EXTERNAL CONTROL OF ORGANIZATIONS: A RESOURCE DEPENDENCE PERSPECTIVE* (John Greenman & Renee E. Beach eds., 1978).

<sup>69</sup> Shah et al., *supra* note 40, at 4 (“RDT suggests that strong relationship and integration with external partners, e.g., key suppliers, is important to achieve organizational objectives, by managing constraints and uncertainty that emanate from the need to acquire resources outside the firm.”).

<sup>70</sup> *Id.* at 3 (“RDT contends that businesses cannot solely opt for their preferred path and attain the desired outcomes on their own. Instead, organizations are dependent on other entities in their environment to get access of the needed resources for realizing their organizational goals. Thus, the strategic orientation and corresponding actions of the firm along with the interdependence between the firm and its partners collectively shape the subsequent organizational outcomes. RDT suggests that enhanced communication and collaboration within the firm and with external entities result in getting requisite resources by the focal firm with less uncertainty and reduced complexity.”); “RDT suggests that strong relationship and

important in a servitized offering due to the company requiring a mix of resources to deliver products and services jointly.<sup>71</sup> Additionally, it is also essential for companies to build resilience to external events.

The number of companies involved in a supply chain network determines the structure and the dynamic of the relationship.<sup>72</sup> Their relationship's power-based structure and dynamic do not exclude the concepts and structures of trust and collaboration necessary for the final offering's composition.<sup>73</sup> Their mutual dependence in such a power-based structure plays an essential role in impacting strategic behavior and economic outcomes.<sup>74</sup>

The management of suppliers and customers within an integrated supply chain shifts the nature of the contractual relationships from one-time deals (sale of goods) to long-term relationships, with relational contracting elements suitable for the type and dynamic of these relationships.<sup>75</sup>

#### *D. Product-Service Integration Model in Cross-Border Contracting*

A network of multiple relationships between producers, suppliers, and customers is necessary to enable the transition, design, and delivery of product-

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integration with external partners, e.g., key suppliers, is important to achieve organizational objectives, by managing constraints and uncertainty that emanate from the need to acquire resources outside the firm." *Id.* at 4.

<sup>71</sup> *Id.* at 3–4.

<sup>72</sup> Supply chain management is of particular interest to organizational management scholars, who consider the upstream, downstream power-based relationship determining their capacity to appropriate most of the value created with exchanges. *See, e.g.,* Vendrell-Herrero et al., *supra* note 15, at 70–71.

<sup>73</sup> *Id.* at 70 ("The existence of power is not necessarily incompatible with trust and cooperation between upstream and downstream parties. . . . [I]n long-term relationships the dominant company holding the balance of power could enhance knowledge acquisition processes and improve the performance of the supply chain by restraining from the use of their power.") (citations omitted).

<sup>74</sup> *Id.* at 70–71.

<sup>75</sup> Ponsignon et al., *supra* note 41 (presenting research arguing that servitization is based on the nature of the buyer-seller relationship). Following the general relationship marketing literature, relationships between providers and customers can range from discrete transactions to relational exchange. For a discussion on relational contracting, see, for example, Ian R. Macneil, *Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law*, 72 NW. U. L. REV. 854 (1978); IAN R. MACNEIL, *THE NEW SOCIAL CONTRACT: AN INQUIRY INTO MODERN CONTRACTUAL RELATIONS* (1980).

service integration.<sup>76</sup> The need for contractual and relational capabilities plays a vital role in product-service integration, making contracts an essential feature that producers need to account for.<sup>77</sup> Producers can achieve their profit-making goals if their contracts effectively manage three key risks: relational risk, performance risk, and risk of lack of adaptability.<sup>78</sup> Given the complexity of the product-service integration and associated challenges to its successful implementation, producers need clarity and predictability in designing and managing their contractual relationships that underpin the business model innovation and implementation. It is essential to take a holistic approach to contract formation to understand the impact of a business model on the contracting process.

“Contracting is the integrated process through which the parties align their commercial and legal interests to establish an agreement that serves their enforcement, collaborative, and adaptable purposes.”<sup>79</sup> The process has two elements: a strategic or operational element—*commercial management*, and a

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<sup>76</sup> See, e.g., Adel & Wiesner, *supra* note 23, at 509 (“[T]he service-dominant logic view stresses co-creation and knowledge sharing between various actors and points towards complex dynamic value creating relationships, where all actors are both providers and customers. These particular actors in interaction are the generator of customer service experience. . . . [One study considered] the development of customers’ relationships as pre-requisite for value co-creation and categorised customers into three groups: [(1)] transactional relationships, [(2)] emergent relationships, [(3)] mature relationships based on factors such as time, stage of the relationship, relationship continuity in terms of active years in doing business, projects and re-engagement in order to highlight that customer experience results over time from quality relationships.”) (citations omitted).

<sup>77</sup> See Melanie E. Kreye et al., *Servitizing Manufacturers: The Importance of Service Complexity and Contractual and Relational Capabilities*, 26 PROD. PLAN. & CONTROL 1233 (2015), for a discussion on the importance of contractual and relational capabilities in servitized models, focusing particularly on product-service systems. The same principles apply to any model of servitization, “[i]n particular, the development of contractual and relational capabilities is important for the success to meet new market conditions and realise emerging business opportunities.” *Id.* at 1233. “Without appropriate contractual and relational capabilities, PSS solution providers are not able to write, interpret and manage complex contracts govern [sic] these integrated solutions.” *Id.* “Moreover, without appropriate relational capabilities, organisations would not be able to co-create value with their customers when delivering and managing these PSS solutions.” *Id.*; see also *id.* (“Maintenance or after-sales services require less complexity with regard to the operational processes and the delivery system than performance-based services. Thus, it can be expected that the contractual and relational capabilities required to offer and receive PSSs differ depending on the level of service complexity.”); Hojnik, *supra* note 6, at 26–27 (discussing that the servitization model is customer-focused, as the customer does not receive a single product through one transaction, but a solution through a holistic set of offering).

<sup>78</sup> Björn Eckhard & Thomas Mellewig, *Contractual Functions and Contractual Dynamics in Inter-Firm Relationships: What We Know and How to Proceed* 14–15 (Univ. Paderborn, Working Paper No. 88, 2006); see also Sorsa et al., *supra* note 29, at 203–06.

<sup>79</sup> Jevremović, *supra* note 29, at 196 (citing Sorsa et al., *supra* note 29, at 203–07).

transactional element—*contract management*.<sup>80</sup> “Contract management supports commercial management by implementing and overseeing legally enforceable performance commitments, both outbound (to the market) and inbound (from the market).”<sup>81</sup> It converts commercial policies, practices, and technical capabilities into specific terms and conditions offered to or required from its suppliers, customers, or business partners.<sup>82</sup> Through active monitoring of performance needs and outcomes, contract management informs commercial management regarding actual and required commitment capabilities, together with their financial and risk impact.<sup>83</sup> This process includes several phases which reflect a contracting lifecycle: “from determining whether to contract with a potential partner, to negotiating and signing the contract, managing its implementation, and closing out” the agreement after it achieves its purpose.<sup>84</sup>

Contracts act as a link between business strategies, policies, and overall values.<sup>85</sup> A company’s business strategies, internal policies, and values will determine the goals of negotiation and the scope of what they are willing to accept in the contract terms. As production or development processes analyze the product’s particular features, usability, and purpose, their determinations influence the contract terms concerning the use of the product, the negotiation around liability terms,

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<sup>80</sup> Jevremović, *supra* note 29, at 196 (citing TIM CUMMINS, *CONTRACT & COMMERCIAL MANAGEMENT: THE OPERATIONAL GUIDE* 2–9 (2011)).

<sup>81</sup> Jevremović, *supra* note 29, at 196.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> *Id.* at 196; *see also id.* at n.25 (“Evaluation Phase: determining whether to contract or not, to develop a contract model to a bid or support a contracting process. Approval Phase: ensuring stakeholders’ review and approval of the decision to bid. Negotiation Phase: establishing strategy, fallbacks, trade-offs; seeking to reach a consensus around the particular relationship. Drafting Phase: preparing the required transactional documents or variations to standard terms. Implementation Phase: signing the contract and communicating the signed version with all parties involved. Management Phase: overseeing and reporting on performance, handling claims and disputes, and negotiating and recording changes. Close Out Phase: deciding whether to renew the contract or not.”).

<sup>85</sup> *See* Sorsa et al., *supra* note 29, at 181; *see also* George J. Siedel & Helena Haapio, *Using Proactive Law for Competitive Advantage* 26 (Mich. Ross Sch. Bus., Working Paper No. 1148, 2010) (“At one time the dominant model in business was the sale of finished using ‘finished’ contracts that provided clear specification of goods sold and clear delineation of rights and duties. In today’s world, the object of the contract—what is agreed upon—is becoming more indefinite and complex. For example, there has been a shift from readymade products to full-package services and life-cycle products.”) (footnotes omitted).

development timeframes, and other product-related considerations.<sup>86</sup> Similarly, the internal accounting processes and policies determine the price negotiation and payment terms.<sup>87</sup> Contracts also define relationship frameworks.<sup>88</sup> Framing a relationship through a set of terms and conditions in a contract is the end product of a discussion and negotiation between the involved parties about their business policies and strategies.<sup>89</sup> It is also a roadmap for communication and collaboration in the long term.

Unable to rely on traditional one-time contract templates, servitization requires a multi-faceted framework that would depend on the desired commercial outcomes and the type of relationship in question.<sup>90</sup> The commercial relationships, typically in the form of performance-based contracts<sup>91</sup> or outcome-based contracts,<sup>92</sup> require elements of relational and agile contracting. The relationships are long-term oriented precisely because of the presence and importance of services. However, long-term contracts require the ability to adapt since the risk of any changes in circumstances or intervening effects increase. Accordingly, both parties must define their terms in a way that ensures their relationship will be adaptable to a potential change in circumstances and that they will be able to preserve it for their mutual benefit. The complexity of the product-service integration, accompanied by several various components and their interplay, makes the drafting process complex and

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<sup>86</sup> See Sorsa et al., *supra* note 29, at 181.

<sup>87</sup> *Id.* Other examples include human resource management, which may affect the inclusion of terms preventing labor abuse in supply chains, or marketing, which determines the expectations of end users, and, therefore, becomes a concrete clause once the contract is drafted.

<sup>88</sup> See DAVID FRYDLINGER ET AL., UNIV. OF TENN. HASLAM COLL. OF BUS., UNPACKING RELATIONAL CONTRACTING: THE PRACTITIONER'S GO-TO GUIDE FOR UNDERSTANDING RELATIONAL CONTRACTS 5 (2016), [http://www.vestedway.com/wp-content/uploads/2016/10/Unpacking-Relational-Contracting\\_v19.pdf](http://www.vestedway.com/wp-content/uploads/2016/10/Unpacking-Relational-Contracting_v19.pdf).

<sup>89</sup> Libby Weber & Kyle J. Meyer, Using Psychological Theories to Shape Partner Relationships Through Contracting 22, 37 (Feb. 18, 2008) (paper presented at the Atlanta Competitive Advantage Conference); see also Libby Weber & Kyle J. Meyer, Unpacking Contract Capabilities: Shaping Behavior by Implementing Appropriate Contract Framing 7, 9 (Feb. 25, 2009) (paper presented at the Atlanta Competitive Advantage Conference); DAVID CAMPBELL ET AL., CHANGING CONCEPTS OF CONTRACT: ESSAYS IN HONOUR OF IAN MACNEIL (David Campbell et al. eds, 2013).

<sup>90</sup> See Kreye et al., *supra* note 77.

<sup>91</sup> See, e.g., Michael Essig et al., *Performance-Based Contracting in Business Markets*, 59 INDUS. MKTG. MGMT. 5 (2016).

<sup>92</sup> See Hojnik, *supra* note 6, at 31–32.



demanding.<sup>93</sup> On a global scale, designing, negotiating, and managing relationships intertwine between various participants in different jurisdictions. The participants need a predictable, uniform legal framework to govern their contracts.

Producers who integrate services into their products to achieve a commercially viable goal benefit from the CISG's framework. They can rely on the neutrality of the CISG's language and rules, leveling the playing field during negotiations and reducing the friction between the parties wanting to resolve a dispute through compromise.<sup>94</sup> The parties can further opt-in partially or entirely to the CISG's system while at the same time having the right to modify some of its rules in their contract.<sup>95</sup> The uniformity and neutrality of the CISG's system, coupled with the principle that allows the parties to adopt the CISG to their contract and vice versa, makes the CISG appropriate for servitized business dealings.<sup>96</sup> The CISG needs to either recognize such a choice in product-service integrated contracts or interpret Art. 3(2) in a way that brings them into its sphere of application, for both parties to benefit.

### III. APPLICATION OF THE CISG TO PRODUCT-SERVICE INTEGRATION CONTRACTS

Due to the product-service elements in a servitized transaction, the CISG will consider them as *mixed agreements*.<sup>97</sup> The CISG's applicability in mixed agreements depends on the determination of the transaction's *preponderant* part.<sup>98</sup> In other words, if the preponderant part of the transaction is a sale of goods, then the CISG

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<sup>93</sup> *Id.* Although discussed in the context of business-to-consumer ("B2C") transactions, the same reasoning applies to business-to-business ("B2B") transactions, especially in the supply-chain relationships.

<sup>94</sup> For a discussion on this point, see Kazuaki Sono, *The Vienna Sales Convention: History and Perspective*, in PETAR SARCEVIC & PAUL VOLKEN, INTERNATIONAL SALE OF GOODS: DUBROVNIK LECTURES 41 (Petar Sarcevic & Paul Volken eds., 1986) (arguing that when one reads the text of the CISG, they will notice that the Convention is clear and easy to understand, reflecting the common sense and businessmen's language).

<sup>95</sup> United Nations Convention on Contracts for the International Sale of Goods, pmbl., Apr. 11, 1980, 1489 U.N.T.S. 3 ("The parties may exclude the application of this Convention or, subject to article 12, derogate from or vary the effect of any of its provisions.").

<sup>96</sup> This is even more true for the small or medium-sized producers who would benefit not just from a lower transaction cost if opting into CISG, but more importantly from its flexibility to adapt to their contracts. For discussion on SMEs and servitization, see, for example, Singh & Kumar, *supra* note 67, at 175.

<sup>97</sup> See CISG-AC OPINION NO. 4, *supra* note 36.

<sup>98</sup> See sources cited *supra* notes 35–36 and accompanying text.

will apply. In order to determine the preponderant element, the prevailing approach is the economic test, i.e., to compare the economic value of the two elements and to classify the element with greater value as the preponderant element.<sup>99</sup> Other approaches call for the *essential* test that compares the two elements and determines which element is essential for the transaction.<sup>100</sup> Our analysis of the product-service integration from a business perspective shows that both of these tests under Art. 3(2) are not appropriate for servitized contracts as they do not fully account for the complexity of the commercial relationships and the business model features.<sup>101</sup> Instead, we argue that the prevailing test should be that of party autonomy.

The term *mixed* may not necessarily be appropriate in the context of product-service integration; mixed agreements entail product and service elements that are physically separate, with services having a marginal supporting role. Product-service integration is different since the two elements aim to make the overall unit attractive. The concept of economic value is different in product-service integrated models because services add a layer of subjectivity from the customers' perspective, making the value of the services difficult to reflect objectively in the price of the integrated unit. The role of services to the product and the customer's relationship with the producer further shows that it is not sensible to determine the applicability of the CISG by trying to establish a clear division between the contract of sale and the contract for services. Instead, the role of services shows that the most appropriate test is that of the parties' intent because only that test encompasses the full extent of product-service oriented contracts. The intent is further relevant in the parties' expression of the desired choice of law to govern their relationship. When parties

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<sup>99</sup> See sources cited *supra* notes 35–36 and accompanying text.

<sup>100</sup> See, e.g., Cass., sez. un., 9 giugno 1995, n.6499, Foro padano 1997 I, 2 (It.), IICL PACE LAW CISG DATABASE (2020), <https://iicl.law.pace.edu/cisg/case/italy-june-9-1995-corte-suprema-di-cassazione-supreme-court-alfred-dunhill-ltd-v-tivoli> [<https://perma.cc/4JTW-QV99>].

<sup>101</sup> Courts interpreting and applying the CISG have considered other elements such as the purpose of the contract and the parties' interests in performance of the obligations should be considered. See, e.g., Oberster Gerichtshof, Austria, 8 November 2005, IICL PACE LAW CISG DATABASE (2019), <https://iicl.law.pace.edu/cisg/case/austria-november-8-2005-oberster-gerichtshof-supreme-court-austrian-case-citations-do-not> [<https://perma.cc/X9BS-NYKD>] (referring to the intentions of the parties as an element to be taken into account when determining whether the contracts falls into the sphere of application of the Convention); Oberlandesgericht München, Germany, 3 December 1999 (CLOUT case No. 430) IICL PACE LAW CISG DATABASE (2020), <https://iicl.law.pace.edu/cisg/case/germany-oberlandesgericht-hamburg-oberlandesgericht-olg-provincial-court-appeal-german-105> [<https://perma.cc/T644-LFPG>] (referring to the interest of the buyer as an element to be taken into account when determining whether the service obligation constitutes the preponderant part of the obligations of the party having to deliver the goods).

choose the CISG to govern their product-service oriented contracts, this choice excludes Art. 3(2). Through their choice, they opted into the CISG's system; there is no reason why such a choice would lead to the application of Art. 3(2), which may exclude the CISG's application. Besides, there is a strong policy argument in favor of the CISG's applicability to product-service oriented contracts, especially among its signatories, to incentivize servitization as a model to revitalize the manufacturing industry.

#### A. *Economically Preponderant Test in Art. 3(2) CISG*

The term “preponderant” does not reveal an exact method to measure the services and goods in a mixed contract against each other. Prevailing interpretations include their economic value, subjective or objective importance for the parties, i.e., the parties' intent, and the differentiation between primary and side obligations. The majority view in legal literature recognizes the economically preponderant obligation, sale of goods vs. services, as decisive or at least as a starting point in the analysis.<sup>102</sup> The legislative history of the CISG supports such an approach.<sup>103</sup> The wording of the predecessor texts, Art. 6 of the 1964 Uniform Law on International Sale of Goods (ULIS) and Art. 1(7) of the 1964 Uniform Law on Formation (ULF) used the term “essential and substantial part” for a provision similar to Art. 3(1) CISG.<sup>104</sup> Considering that the drafters of CISG rejected the word “essential” and only used “substantial” in Art. 3(1) CISG, the economic criteria prevails over the qualitative criteria or the parties' intent.<sup>105</sup> The same arguments were then reflected on the interpretation of the word “preponderant” in Art. 3(2) CISG, even though Art. 3(1) and (2) use different wording (“substantial” versus “preponderant”), have different legislative histories, and relate to different problems.<sup>106</sup> While Art. 3(1)

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<sup>102</sup> See CISG-AC OPINION NO. 4, *supra* note 36, cmt. 3.3; Ingeborg Schwenzer & Pascal Hachem, *Part I Sphere of Application and General Provisions, Ch. I Sphere of Application, Introduction to Articles 1–6*, in SCHLECHTRIEM & SCHWENZER: COMMENTARY ON THE UN CONVENTION ON THE INTERNATIONAL SALE OF GOODS (Ingeborg Schwenzer ed., 4th ed. 2016); CHRISTOPH J.H. BRUNNER & BENJAMIN GOTTLIEB, COMMENTARY ON THE UN SALES LAW (CISG) (Christoph J.H. Brunner & Benjamin Gottlieb eds., 2019); HEINRICH HONSELL, KOMMENTAR ZUM UN-KAUFRECHT 31 (2d ed. 2010).

<sup>103</sup> For an overview of the legislative history of Article 3 CISG and match-up with the ULIS and ULF, see *Legislative History CISG Antecedents*, IICL PACE L. SCH. INST. OF INT'L COM. L. (June 19, 1998), <https://iicl.law.pace.edu/cisg/page/legislative-history-cisg-antecedents-match-cisg-article-3-ulisulf-provisions> [<https://perma.cc/2VK7-RQ9H>].

<sup>104</sup> *Id.*

<sup>105</sup> CISG-AC OPINION NO. 4, *supra* note 36, cmt. 2.5; Schwenzer & Hachem, *supra* note 102, at 60.

<sup>106</sup> CISG-AC OPINION NO. 4, *supra* note 36, cmt. 4.1–4.4.

CISG looks at each party's contributions to the same type of contract, Art. 3(2) CISG seeks to qualify what type of contract is in dispute.<sup>107</sup> The differences result in a nonautonomous interpretation<sup>108</sup> between Art. 3(1) and 3(2) CISG or applying an intentionally different standard to each.

The appeal of an economic understanding to preponderance lies in its simplicity when applied to traditional mixed contracts involving goods and services. Comparing the goods and services' value as if they were separate contracts is helpful if the service consists of a one-time obligation like delivery and installation of the goods. In such cases, it would be unnecessarily burdensome to investigate the parties' true intent or look at other possible relevant circumstances. However, even with a relatively simple contractual transaction, the test could lead to a wrong result. To use the example of CISG drafters, painting a car with gold does not make the paint job a sales contract.

Similarly, the Swiss Appellate Court stated that a three-day-long stove installation does not transform the product's sale into a service, despite the value of the lengthy installation.<sup>109</sup> Another great example is a catering service contract.<sup>110</sup> If a company signs a catering contract for several events where the caterer agrees to provide the event space, food, and service, the economic preponderance will depend on the menu.<sup>111</sup> If the food and beverages are of very high quality—and are therefore expensive, it would be a sale contract; otherwise, it would likely be a service contract.<sup>112</sup> Consequently, where there are different events based on different contract terms, such as different menus or the number of guests, the outcome could be different, resulting in uncertainty and unpredictability. Determining the value at the time of contracting is challenging because servitization looks at value differently from a traditional exchange of goods with auxiliary services.

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<sup>107</sup> *Id.*

<sup>108</sup> CISG-AC OPINION NO. 4, *supra* note 36, cmt. 4.4.

<sup>109</sup> Obergericht Zug [OG Zug] [Canton of Zug Appellate Court] Dec. 19, 2006, OG 2006/19, IICL PACE LAW CISG DATABASE (2019), [https://iicl.law.pace.edu/cisg/case/switzerland-obergericht-appellate-court-aargau-5#\\*\\*](https://iicl.law.pace.edu/cisg/case/switzerland-obergericht-appellate-court-aargau-5#**) [<https://perma.cc/L89H-Z4V6>].

<sup>110</sup> LEANDRO TRIPODI, TOWARDS A NEW CISG: THE PROSPECTIVE CONVENTION ON THE INTERNATIONAL SALE OF GOODS AND SERVICES 51 (2015).

<sup>111</sup> *Id.*

<sup>112</sup> *Id.*

## 1. Economic Value in Product-Service Integration Contracts

The value proposition behind servitization lies in increasing the relationship's intangible value<sup>113</sup>—such as trust or the value of commitment. Therefore, product-service integration shifts the traditional understanding of value from the exchange phase to the use phase with four associated categories: service offerings, customer value, value co-creation, and product ownership.<sup>114</sup> In these cases, the producer and the customer will not always have the same understanding or perception in terms of the value. The presence of services in a servitized model introduces a subjective element of the customers' judgment and perceived value. On the other hand, in the sale of goods, the value of each good is in the price itself; the value is therefore standardized.

When designing product-service integration, producers start from the products' performance and emphasize the achievement of those performances.<sup>115</sup> To increase value, they can increase the performance of the product functions, which comes from adding services to the product in servitization.<sup>116</sup> Although there is an increase in the final offering value, there is also an increase in the product's lifecycle costs.<sup>117</sup>

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<sup>113</sup> ANNARELLI ET AL., *supra* note 15, at 31–32 (“The definition and perception of value depends on the type of stakeholder and on its role within the supply chain, on the way in which the service is administered and on its responsibilities (for example, the difference in the perception of the value of a product depending on whether it is purchased or used in leasing). The definition of the value proposition therefore goes beyond understanding what the service can offer and how a coherent portfolio is developed.”) (citations omitted).

<sup>114</sup> *Id.*; *see also* Tietze & Hansen, *supra* note 26 (discussing the ownership structure in the PSS system as it differentiates between product innovators and PSS innovators). The distinction is particularly relevant in the context of environmental debate. Because the ownership transfers from producers to customers, producers have little incentive to innovate or care of production or consumption or the product in the post-sale phase; their standard mode of acquiring revenue focuses on exchange of a product for a price; however, in PSS models there is generally no ownership transfer which incentivizes the PSS innovators to find ways to maximize their revenues, maintain the relationship and ensure the durability and use of goods.

<sup>115</sup> *See* Thècle Alix et al., *Product Service Value Analysis: Two Complementary Points of View* (2009), <https://core.ac.uk/download/pdf/138923.pdf> [<https://perma.cc/5RN3-QMB2>] (paper presented at the 1st CIRP Industrial Product-Service System (IPS2) Conference, Cranfield, Eng., Apr. 1–2, 2009).

<sup>116</sup> *Id.*

<sup>117</sup> *Id.*; *see also* Vandermerwe & Rada, *supra* note 3, at 319–21; Vendrell-Herrero et al., *supra* note 15, at 72 (“Through servitization, firms are able to differentiate their offering and enhance customer engagement recent studies have shown that capturing value through servitization is complex in firms selling manufactured and digitalized products.”).

Unlike in a single product offering, where the price serves as the objective representation of the product's value for both the producers and customers,<sup>118</sup> the cost of adding services is not easy to implement within the price. Although the producers have achieved the desired level of integration, they sometimes are left to suffer losses.<sup>119</sup> The struggle comes from the added layer of customers now judging the product's value subjectively.<sup>120</sup> Customers perceive services as product features and expect that they come at no additional charge.<sup>121</sup> They base their judgments of value upon their evaluation of suitability of outcomes or user experience.<sup>122</sup> Their subjective assessment does not necessarily equate with the producers' objective assessment of the value.<sup>123</sup>

Producers break down each function's costs in the product's life cycle and evaluate the total relative costs.<sup>124</sup> The result looks at the overall cost and the

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<sup>118</sup> See, e.g., Töytäri, *supra* note 16, at 270–71 (discussing the different concepts of cost in product-centered model versus a model that is focused on value due to the presence of services).

<sup>119</sup> See Alix et al., *supra* note 115 (“Basically, big companies have become customary with product-service sales; they generate profit and can even sell services independently from products. SME in the manufacturing area are less hardened to this routine and only propose to sell a service jointly to the sale of a product. Profit for these kinds of enterprises is questioned; practically, a study performed by Baglin showed that whatever the type of service only 31% of SMEs sells them. The reasons that explain this loss of profit and this brake to the development of service offers is twofold: Service costing which can be difficult to evaluate because of service specificities; Price fixing that can be modified depending on whether the service is interpreted: tools for competition demarcation or real added value for the customer.”).

<sup>120</sup> For a discussion on value from customer perspective, see Valerie A. Zeithaml, *Consumer Perceptions of Price, Quality and Value: A Means-End Model and Synthesis of Evidence*, 52 J. MKTG. 2, 12 (1988) (discussing that the term value can mean price, the end-result of an exchange between parties, the trade-off between the price and quality, or an overall assessment of subjective worth).

<sup>121</sup> See generally Alix et al., *supra* note 115.

<sup>122</sup> See Adel & Wiesner, *supra* note 23, at 509 (“The notion of value evolved from being inherently firm-centric approaches focusing on adding value into customer centric approaches considering value of an offering based upon customer evaluation of offerings' suitability outcomes or judgment based upon use experience.”).

<sup>123</sup> See Alix et al., *supra* note 115 (presenting four scenarios of the value matrix depending on whether the perception of value for customer is high or low, and comparing to the producer's perception of value that can also be high or low; the interplay of the different perceptions affects the overall relationship and commercial drive of both the customer and the producer).

<sup>124</sup> See Alix et al., *supra* note 115 (“Value Analysis (VA) is ‘[a] systematic approach used to analyse functional requirements of products or services for the purpose of achieving their essential functions at the lowest total cost.’ It defines a ‘basic function’ or ‘main functions’ as anything that makes the product work or sell and defines ‘secondary functions’ or ‘supporting functions’ as functions describing the manner in which the basic function(s) are implemented.”).

percentage of each function's contribution to the overall product-service design;<sup>125</sup> this allows producers to maximize the value while reducing costs.<sup>126</sup> On the other side, customers compare the overall value (including advantages and branding) with the costs (including monetary, functional, and psychological costs).<sup>127</sup> While companies do an objective assessment to determine the value, the customers' determination is subjective as it depends on their frame of mind and understanding.<sup>128</sup> As a result, producers face a difficult task—expressing the integration value through a price that would not deter the customers from purchasing. Even if the customer participates in the service delivery process (as part of the supply chain or otherwise), they simply do not have access to the producer's internal accounting data.<sup>129</sup> As a result, the customer will only be able to define the cost through comparison with others in the market.<sup>130</sup> Therefore, the concept of value is limited as customers may only reflect their own subjective understanding of the value and price based on the information they have and their *perceived* value of a product-service integration.

## 2. Applying Art. 3(2) Preponderant Test to Product-Service Integration Contracts

The objective comparison of value in the product-service integration is challenging and not adequate as a means of comparing the value between the product and services in a product-service integrated model. Not only are they integrated, but the different perception of the value underpins the expectations both sides have from a servitized business dealing. The example of ArcelorMittal illustrates additional challenges in the application of the economic test. Mittal's offering encompasses selling lightweight steel for automotive companies *and* training to ensure better utilization of the goods, take-back services, dismantling services, and recollecting

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<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> *Id.*

<sup>128</sup> See VALARIE A. ZEITHAML ET AL., DELIVERING QUALITY SERVICE: BALANCING CUSTOMER PERCEPTIONS AND EXPECTATIONS 16 (1990) ("The only criteria that count in evaluating service quality are defined by customers. Only customers judge quality; all other judgments are essentially irrelevant."); see also *id.* at 21–22 (discussing the ten dimensions of service quality, including responsiveness, reliability, security, understanding the customer, and communication).

<sup>129</sup> See Alix et al., *supra* note 115.

<sup>130</sup> See ZEITHAML ET AL., *supra* note 128.

parts used for packaging aimed at environmental protection.<sup>131</sup> Should these services become part of a long-term contractual relationship, it may be impossible to determine the amount and value of the services in advance—especially if the contractual terms would not include a separate price for the services. The examination of the relationship between goods and non-goods may differ at different points in time and would depend on how much of the additional services the buyer actually used. A calculation based on the market value at the time of contracting would not correspond to the parties' business model.

The analysis of the costs and value in the context of a servitized offering is essential as it demonstrates that the economic test—which requires a comparison of the economic value—is not appropriate. Moreover, the term value can mean price, the end-result of exchange between parties, the trade-off between the price and quality, or an overall assessment of subjective worth.<sup>132</sup> Whether the test requires the provider's economic value or the customer's point of view is not clear. Even if it is an objective economic assessment, such an assessment is not appropriate because, at the time of contract conclusion, both parties come from a different perspective as to the cost and the value of the offering. Therefore, the objective qualification of a contract may come from elements known to only one party, which did not necessarily impact the motives for the other party's contract conclusion. Also, determining the economic value by comparing the value of the product to a service is not appropriate because a service may not have an attributed cost, or its cost may not be reflected in the price, as discussed above. The economic test to compare each part of the offering's objective value may lead to contradicting results.

*B. Parties Intent as the Dominant Criteria for Determining Preponderant Obligation in Product-Service Integration Contracts*

The idea that parties' intent should be the primary test for the preponderant obligation under Art. 3(2) CISG is not new.<sup>133</sup> The CISG itself considers party

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<sup>131</sup> ANNARELLI ET AL., *supra* note 15, at 69.

<sup>132</sup> For a discussion on customer perception of value, see Alix et al., *supra* note 115; VALARIE A. ZEITHAML ET AL., PROFITING FROM SERVICES AND SOLUTIONS: WHAT PRODUCT-CENTRIC FIRMS NEED TO KNOW (2014); VALARIE A. ZEITHAML ET AL., SERVICES MARKETING: INTEGRATING CUSTOMER FOCUS ACROSS THE FIRM (7th ed. 2018).

<sup>133</sup> See Schwenzer & Hachem, *supra* note 102, at 70.



autonomy as one of its main principles embedded in Art. 6.<sup>134</sup> The provisions of the CISG are not mandatory, and parties may explicitly or even impliedly derogate from them.<sup>135</sup> In fact, numerous court decisions reflect that party autonomy should be prioritized when determining the preponderant part.<sup>136</sup> However, the prevailing opinion is that economic preponderance is the starting point, while the intent only needs to be considered.<sup>137</sup> In our view, the test should be reversed: the parties' intent should prevail over any other criteria to determine the preponderance of goods or services in a contract. To fully understand the argument that the parties' intent prevails over economic preponderance, we need to take a step back and look at the purpose of Art. 3(2) CISG.

Scholars and courts rarely focus on the purpose behind the preponderance test to determine *if* the CISG applies.<sup>138</sup> Art. 3(2) CISG does not aim to impose on the parties a separation of their contract into different contracts or the applicability of different laws to the same contract. Moreover, Art. 3 CISG does not intend to make the CISG inapplicable to service obligations. As soon as the analysis shows that goods are preponderant, either economically or based on other criteria, the CISG will inevitably apply to service and other possible obligations within the mixed contract. Therefore, there is hardly any reason to prevent the parties from choosing the CISG as the applicable law, even they show a preponderance of the criteria services. Given the complexity of integration between tangible products—goods—and accompanied services in servitized models, the parties' intent is the most important criteria to determine the applicability of the CISG. Focusing on the element that dominates the

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<sup>134</sup> UN CONVENTION ON CONTRACTS FOR THE INTERNATIONAL SALE OF GOODS (CISG): A COMMENTARY 101 (Stefan Kröll et al. eds., 2d ed. 2018) [hereinafter KRÖLL COMMENTARY]; FRANCO FERRARI ET AL., UN-KAUFRECHTS-ÜBEREINKOMMEN Art. 6 ¶ 1 (2018).

<sup>135</sup> See United Nations Convention on Contracts for the International Sale of Goods, pmbl., *supra* note 95 and accompanying text.

<sup>136</sup> See Bundesgerichtshof [BGH] [Federal Supreme Court] Dec. 7, 2017, ZEITSCHRIFT FÜR WIRTSCHAFTSRECHT [ZIP] 130, 2018 (Ger.); HvB Nov. 24, 2004, AR/2613 IICL PACE LAW CISG DATABASE (2020), <https://iicl.law.pace.edu/cisg/case/belgium-november-24-2004-hof-van-beroep-appellate-court-srl-orvitix-v-nv-fabelta-ninove> [<https://perma.cc/AD2J-L5T7>]; Oberlandesgericht [OLG] [Court of Appeal] June 11, 2007, INTERNATIONALES HANDELSRECHT [IHR] 162, 2008 (Ger.) IICL PACE LAW CISG DATABASE (2020), <https://iicl.law.pace.edu/cisg/case/germany-oberlandesgericht-hamburg-oberlandesgericht-olg-provincial-court-appeal-german-147> [<https://perma.cc/9QTS-3ZYW>].

<sup>137</sup> FERRARI ET AL., *supra* note 134, ¶ 6; BRUNNER & GOTTLIEB, *supra* note 102, at 41, ¶ 8; KRÖLL COMMENTARY, *supra* note 134, ¶ 19; CISG-AC OPINION NO. 4, *supra* note 36.

<sup>138</sup> HONSELL, *supra* note 102, at 29.

transaction does not consider the relationship between the product and the services and achieving the model's purpose for both the manufacturer and the customer.

The same is true for the severability of the contract criteria. Using the severability of contracts criteria, the CISG should apply to both the contract sale and services obligations only if they are not two separate contracts.<sup>139</sup> In the case of two separate contracts, the CISG applies to the sale contract, and domestic law, determined by private international law, applies to the service contract. However, the parties' intent will be decisive to determine if a contract is to be considered one or more separate contracts.<sup>140</sup> If parties built a contract around a business model that may be separated into services and goods but which was intended to be uniform, one law should govern it. The appropriate approach is to determine *if the parties intended* to conclude separate contracts, not if the sale and service obligations can be split into two separate contracts.

### 1. Determining Parties' Intent in Product-Service Integration Models

The parties' intent should be determined under the standards in Art. 8(1) or Art. 8(2) CISG. Irrespective of the standard one wishes to apply, Art. 8(3) calls for a "due consideration of all relevant circumstances of the case."<sup>141</sup> In mixed contracts, the relevant circumstances generally include the economic value; the contractual provision in its entirety;<sup>142</sup> the usual classification of such contracts in business dealings;<sup>143</sup> the services' duration,<sup>144</sup> including recurring services; and the structure of the price.<sup>145</sup> The *essential circumstance* to consider when determining intent in

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<sup>139</sup> BRUNNER & GOTTLIEB, *supra* note 102, at 42, ¶ 10; KRÖLL COMMENTARY, *supra* note 134, ¶¶ 21–22

<sup>140</sup> MÜNCHENER KOMMENTAR ZUM BÜRGERLICHEN GESETZBUCH: BGB, BAND 4: SCHULDRECHT, BESONDERER TEIL I §§ 433–534, FINANZIERUNGSLEASING ¶ 15 (Peter Westermann et al. eds., 8th ed. 2019) [hereinafter MUNICH CIVIL CODE COMMENTARY]; BRUNNER & GOTTLIEB, *supra* note 102, at 42, ¶ 9.

<sup>141</sup> United Nations Convention on Contracts for the International Sale of Goods, art. 8(3), Apr. 11, 1980, 1489 U.N.T.S. 3 ("In determining the intent of a party or the understanding a reasonable person would have had, due consideration is to be given to all relevant circumstances of the case including the negotiations, any practices which the parties have established between themselves, usages and any subsequent conduct of the parties.").

<sup>142</sup> CISG-AC OPINION NO. 4, *supra* note 36.

<sup>143</sup> BRUNNER & GOTTLIEB, *supra* note 102, at 41, ¶ 8.

<sup>144</sup> MUNICH CIVIL CODE COMMENTARY, *supra* note 140, ¶ 14.

<sup>145</sup> CISG-AC OPINION NO. 4, *supra* note 36.

product-service integration is the function of the services in relation to the product and the customers' needs. If service and product form part of one single item available for a set price, with services enabling the increased functionalities of the product, it is more likely that the relationship will be a contract for sale of goods. On the other hand, if the product is available only to allow customers to use the integrated service, then the contract will likely be one for the provision of services.

In considering all relevant circumstances of a case, Art. 8(3) CISG specifically asks the interpreter to look to negotiations, practices between the parties, usages, and subsequent conduct.<sup>146</sup> Art. 8(3) gives general guidelines of elements relevant to contract formation and contract performance to interpret intent in a broader range of scenarios in the international sale of goods.<sup>147</sup> In specifying the standards, courts in Switzerland, for example, reasoned that the "actual intent can be construed on the basis of the parties' interests, the purpose of the contract and the objective circumstances at the time of the conclusion of the contract."<sup>148</sup>

Additionally, courts in the United States, Switzerland, and Germany, respectively, reasoned that subsequent conduct might shed some light on the meaning of statements when they were made.<sup>149</sup> When determining the *objective circumstances* at the time of contract conclusion in the case of a product-service integration, it is necessary to understand the dual role services play. Services determine the objective circumstances at the time of contract conclusion on one side and parties' interests alongside contracts' purpose on the other side. Examining the functional role of services further means understanding the customers' preferences when purchasing.

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<sup>146</sup> See sources cited *supra* note 143.

<sup>147</sup> The wording of Article 8(3) specifically considers relevant circumstances concerning contract formation, negotiation—as well as circumstances relevant for contract performance—terms of the contract, parties' subsequent conduct, and practices the parties established between themselves. United Nations Convention on Contracts for the International Sale of Goods, art. 8(3), Apr. 11, 1980, 1489 U.N.T.S. 3.

<sup>148</sup> Handelsgericht Aargau, Switzerland, 26 November 2008 IICL PACE LAW CISG DATABASE (2020), <https://iicl.law.pace.edu/cisg/case/switzerland-handelsgericht-commercial-court-aargau-1> [<https://perma.cc/LX7G-8AYB>]; see also Obergericht des Kantons Thurgau, Switzerland, 12 December 2006 (CLOUT case No. 932).

<sup>149</sup> Alpha Prime Dev. Corp. v. Holland Loader Co., No. 09-cv-01763-WYD-KMT, 2010 WL 2691774, at \*5 (D. Colo. July 6, 2010); BG July 3, 1997, 3PZ97/18; Landgericht [LG] [Regional Court] Sept. 26, 1990, PRAXIS DES INTERNATIONALEN PRIVAT-UND VERFAHRENSRECHTS [IPRAX] 400, 1991 (Ger.).

Driven by customers' preferences, services' roles differ in traditional product-centered contracts compared to product-service integrated contracts. In a product-centered economy, customers will decide which product to buy based on quality and pricing. Services in this phase include classic after-sale services (i.e., activities ancillary to the supply of goods such as transportation, installation, commissioning, technical assistance, security, and maintenance), with a limited function to enable or support the delivery or use of the product. In such context, the product is the essential element of the transaction, with services separate and not decisive for purchasing the product. A clear-cut differentiation between a contract for sale and a contract for services is a sensible approach since hardly any services are integrated with the product.<sup>150</sup> In the modern digitized economy, however, the customers' concern is not the quality of the product or durability per se but instead efficiency, the effectiveness of product functionalities, durability, and performance.<sup>151</sup> The functionalities of the product, its digitized smart features, and ease of use play a dominant role in a customers' decision to purchase.<sup>152</sup>

Services that support the customer's activities—use of the product—require a higher level of product-service integration and innovation as they are focused on ensuring functionality and facilitating access to the customer.<sup>153</sup> Their focus is on the customer experience.<sup>154</sup> New technologies enable embedding services in the tangible product to increase its functionalities.<sup>155</sup> In addition, the product-service integration now includes self-service, support services, and enriched know-how information.<sup>156</sup>

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<sup>150</sup> See generally Vendrell-Herrero et al., *supra* note 15.

<sup>151</sup> For a discussion on customers' perception and interest in products, see generally sources cited *supra* note 133.

<sup>152</sup> *Id.* For a discussion of preferences of the end users in terms of durable products, see Christopher L. House & Emre Ozdenoren, *Durable Goods and Conformity*, 39 RAND J. ECON. 452 (2008).

<sup>153</sup> ANNARELLI ET AL., *supra* note 15, at 36.

<sup>154</sup> *Id.*

<sup>155</sup> See generally Igou et al., *supra* note 56.

<sup>156</sup> Vandermerwe & Rada, *supra* note 3, at 316; see also Vendrell-Herrera et al., *supra* note 15, at 1 (“Product firms are gradually adopting service business models. Approximately two thirds of product firms in developed countries have already adopted a servitization strategy. In addition, on average service revenue of product firms accounts for 30% of their total revenue.”); Andy Neely, Professor, Univ. of Cambridge, *The Servitization of Manufacturing: An Analysis of Global Trends* (Jan. 2007); Crozet & Milet, *supra* note 15, at 821 (noting that servitization is a trend that is observed in all OECD countries and also in developing countries); Caroline Ennis et al., Aston Business School, *Proceedings of the Spring Servitization Conference: A Conceptual Framework for Servitization in Industry 4.0: Distilling Directions for Future Research* at 4 (May 14, 2018).

The whole package is diverse and complex, aiming to satisfy the needs and problems of customers.<sup>157</sup> Although each element in the bundle can be a standalone offering, it is unusual for a company to be involved in just one segment.<sup>158</sup> The bundle becomes a network of the different elements offered as one product, with varying levels of integration and varying levels of standardization (as opposed to individualization).<sup>159</sup> Services and their role in the product become the distinct feature on which parties base their intent to purchase and focus their negotiations if a level of individualization is necessary.<sup>160</sup>

The end goal, the entire purpose of the product-service integration, is the customer experience in using the integrated product. In that sense, the services become a feature of the product, just like any other tangible elements (e.g., size, shape, color, and the like).<sup>161</sup> They are decisive in the decision to purchase a product or not; it is irrelevant whether the service is physically integrated into the product or if it is offered as an add-on. In either case, the service is a feature of the goods, allowing customers to identify the value-in-use either at the point of purchase (in which case it is a matter of preference) or at the point of use (in which case it is a matter of consumption).<sup>162</sup> The purpose of services for both the producers and customers is to enable the use of the product, enhance the customer experience, and inform the customers' preferences. Since both parties reasonably expect the

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<sup>157</sup> See sources cited *supra* note 156.

<sup>158</sup> Vandermerwe & Rada, *supra* note 3, at 316.

<sup>159</sup> *Id.* (“Each of the modules within the ‘bundle’ can be free-standing. Some companies recommend it on the basis that customers need to be able to choose what they want and may not want the whole package. Others argue that since the idea is to create an integrated ‘bundle’, although it is not always practical, it is usually desirable to offer everything and knit the elements as tightly together as possible. . . . It is however unusual for a company today to only be involved in one aspect of the total package. . . . In some instances modules within the ‘bundle’ are standardized. In others highly customized. This depends entirely on the individual circumstances. Either way, both service corporations and manufacturing companies are moving toward these ‘bundles’ and this is colouring and shaping their strategies and relationships.”).

<sup>160</sup> *EESC Opinion (2014)*, *supra* note 9, ¶ 3.16 (“A change in marketing concepts is made possible by new services, as they are no longer focused on selling products but on (individual) customers’ needs.”); see also *id.* ¶ 4.4 (discussing ways in which increased digitalization will lead to increased individualization for, among others, customers in benefiting from smart and tailor-made products and components).

<sup>161</sup> For a discussion on the end-consumers’ experience in the context of the CISG, see JOYCE WILLIAMS, TRADE DEVELOPMENT THROUGH HARMONIZATION OF COMMERCIAL LAW 299 (Muruga Perumal Ramaswamy & Joao Ribeiro eds., 2015).

<sup>162</sup> See Adel & Wiesner, *supra* note 23, at 509.

relationship to be treated as integrated, there is no reason to seek artificial methods to separate the two.

## 2. The Burden of Proof Considerations

When establishing preponderance, the party challenging the application of the CISG has the burden of proving the preponderance of non-sale obligations.<sup>163</sup> Art. 3(2) CISG is an exception from the applicability of the CISG, and those who rely on the exception must prove it.<sup>164</sup> Where the intent is not clear, because the negotiations, the price, other contractual provisions, or circumstances fail to bring enough clarity as to the intent of the parties, the CISG will remain applicable. The threshold of the preponderance of non-sales obligations for the party claiming the non-applicability of the CISG is relatively high. The discussion in literature has focused on whether economic preponderance is 51% of the value or if it must be higher to exclude the application of the CISG. Many argued that preponderance means that non-sales obligations are significantly higher than 50%.<sup>165</sup> Those arguing against such an approach highlight that the wording of Art. 3(2) CISG does not indicate such an interpretation, nor does it make it easier to establish preponderance in a specific scenario.<sup>166</sup> The systematic interpretation of Art. 3 CISG, however, does suggest that the use of the term “substantial” in Art. 3(1) CISG requires a lower percentage than “preponderant” in Art. 3(2) CISG.<sup>167</sup> Considering the burden of proof on the party alleging the non-applicability of the CISG and the high standard of preponderance of non-sales required, contracts in a servitized business model are likely to pass the test under Art. 3(2) CISG.

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<sup>163</sup> Oberster Gerichtshof [OGH] [Supreme Court] Nov. 8, 2005, 4 Ob 179/05k, INTERNATIONALES HANDELSRECHT [IHR] (Austria).

<sup>164</sup> KRÖLL COMMENTARY, *supra* note 134, ¶ 26; FERRARI ET AL., *supra* note 134, ¶ 9.

<sup>165</sup> CISG-AC OPINION NO. 4, *supra* note 36, cmt. 2.8; Oberster Gerichtshof [OGH] [Supreme Court] Nov. 8, 2005, 4 Ob 179/05k, 7 (“Contracts of a mixed type are not encompassed by the CISG if the proportion of non-sale obligations clearly preponderates in monetary terms or according to the intentions of the parties . . .”) (Austria); Oberlandesgericht [OGLZ] [Court of Appeals] Dec. 3, 1999, 130, 134 (Ger.) (holding that an approximately similar value is not enough to exclude the application of CISG); Kantonsgericht [District Court of the Canton Zug] Feb. 25, 1999, A3.153/1999, 2 (Switz.) (requiring that “work has a clear dominance because its value clearly exceeds the value of the goods to be delivered”); *see also* JOHN O. HONNOLD, UNIFORM LAW FOR INTERNATIONAL SALES UNDER THE 1980 UNITED NATIONS CONVENTION 67, ¶ 60.1 (Harry M. Flechtner ed., 4th ed. 2009).

<sup>166</sup> CISG-AC OPINION NO. 4, *supra* note 36, cmt. 2.9.

<sup>167</sup> CISG-AC OPINION NO. 4, *supra* note 36, cmt. 2.8; *see also* KRÖLL COMMENTARY, *supra* note 134, ¶ 28.

### C. Exclusion of Art. 3(2) CISG by Virtue of Party Intent

The CISG may be applicable to a contract if the parties so choose. When parties expressly or impliedly choose the CISG as the applicable law for their entire contract, it is not up to the CISG to reverse such a choice by applying Art. 3(2) CISG.

Under Art. 1(1)(b) CISG, the CISG will be applicable if the rules of private international law refer to it. Most private international rules envisage party autonomy as the main principle to determine the applicable law for international business contracts.<sup>168</sup> If parties expressly or implicitly choose for the CISG to apply, it would be contrary to party autonomy to exclude the application of the CISG by virtue of Art. 3(2) CISG. In case of doubt, an appropriate interpretation of an express or implied choice of the CISG as the applicable law would mean an exclusion of the Art. 3(2) CISG.<sup>169</sup>

We acknowledge that the CISG does not expressly regulate the situation of “opting in”;<sup>170</sup> however, such an explicit rule is not necessary because the CISG applies by default as set out in its Art. 1. It is undisputed that parties may effectively incorporate the CISG into their contract as equal contractual clauses. Put differently, parties may simply copy-paste or refer to the whole or parts of the CISG in their contract without choosing the CISG as the applicable law. This will usually be the case if the private international law of the state of the court (*lex fori*) or seat of arbitration (*lex arbitri*) does not allow parties to choose the CISG as the applicable law. PIL literature treats such incorporation as the *substantive choice of law* instead of the *choice of law on the level of conflict rules*.<sup>171</sup> However, in such a case, the applicable law’s mandatory provisions have priority over the incorporated CISG provisions. Our analysis here refers to the choice of using the CISG as the law

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<sup>168</sup> See generally Hague Conference on Private International Law, *Principles on Choice of Law in International Commercial Contracts*, <https://assets.hcch.net/docs/5da3ed47-f54d-4c43-aaef-5eafc7c1f2a1.pdf> [<https://perma.cc/DVJ3-NHKU>]; KRÖLL COMMENTARY, *supra* note 134, ¶ 52.

<sup>169</sup> Schwenzer & Hachem, *supra* note 102, at 116, ¶ 30; KRÖLL COMMENTARY, *supra* note 134, ¶ 25.

<sup>170</sup> For a discussion on issues arising out of opting into the CISG, see Harry M. Flechtner & Ronald A. Brand, *Opting In to the CISG: Avoiding the Redline Products Problems*, 95–128, in A TRIBUTE TO JOSEPH M. LOOKOFSKY (Mads Bryde Andersen & René Franz Henschel eds., 2015).

<sup>171</sup> Erik Jayme, *Die Vergemeinschaftung des Europäischen Vertragsübereinkommens (Rom I) 5*, in EUROPÄISCHES KOLLISIONSRECHT (2004); P. Mankowski, CFR und Rechtswahl, 418, 420, in M. SCHMIDT-KESSEL, DER GEMEINSAME REFERENZRAHMEN-ENTSTEHUNG, INHALTE (2009).

applicable to the contract so that it completely derogates the otherwise applicable law.<sup>172</sup>

An exception exists if the parties chose otherwise, meaning that parties may opt out of the CISG under Art. 6 CISG,<sup>173</sup> allowing for express or implied exclusion of specific provisions from the CISG.<sup>174</sup> This further confirms the interpretation that an express or implied choice of using the CISG as the applicable law excludes Art. 3(2) from the CISG's application.

From the PIL perspective of some States, a question may arise if parties choose the CISG as "law." Reason being that the CISG is not the national law of a state, whereas most conflict of law rules will refer to the law of a state. PIL primarily discusses this problem in terms of *lex mercatoria*, international principles, and codifications not adopted in the form of conventions, e.g., the UNIDROIT Principles of International Commercial Contracts.<sup>175</sup> Such principles do not represent law in the traditional sense envisaged by the conflict rules. In any event, the CISG is the law in more than 94 States,<sup>176</sup> so it has a form of democratic legitimation. For example, in Austria, Germany, and Switzerland, the respective private international laws allow parties the choice of using the CISG as governing law.<sup>177</sup>

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<sup>172</sup> The overriding mandatory rules of the *lex fori*, and under some circumstances also of the *lex causae*, remain applicable. See ANDREAS KÖHLER, EINGRIFFSNORMEN—DER "UNFERTIGE TEIL" DES EUROPÄISCHEN IPR (2013).

<sup>173</sup> HONNOLD, *supra* note 165, at 106.

<sup>174</sup> HONSELL, *supra* note 102, at 29, ¶ 2.

<sup>175</sup> Hamburg Group for Private International Law, *Comments on the European Commission's Draft Proposal for a Council Regulation on the Law Applicable to Non-Contractual Obligations*, 67 RABELS ZEITSCHRIFT FÜR AUSLÄNDISCHES UND INTERNATIONALS PRIVATRECHT (RABELSZ) 1, 36 (2003); Thomas Thiede, Die Rechtswahl in den Römischen Verordnungen 58, in RECHTSWAHL-GRENZEN UND CHANCEN (2010).

<sup>176</sup> See *Status: United Nations Convention on Contracts for the International Sale of Goods (Vienna, 1980) (CISG)*, UNCITRAL, [https://uncitral.un.org/en/texts/salegoods/conventions/sale\\_of\\_goods/cisg/status](https://uncitral.un.org/en/texts/salegoods/conventions/sale_of_goods/cisg/status) [<https://perma.cc/A69K-MN3W>].

<sup>177</sup> CONTRACTS FOR THE INT'L SALE OF GOODS ADVISORY COUNCIL, CISG ADVISORY COUNCIL OPINION NO. 16: EXCLUSION OF THE CISG UNDER ARTICLE 6 (2014), [http://cisgac.com/file/repository/CISG\\_AC\\_Opinion\\_no\\_16.pdf](http://cisgac.com/file/repository/CISG_AC_Opinion_no_16.pdf); Valentina Hirsiger-Meier & Lukas Innerebner, *Switzerland: New Landmark Decision on the Applicability of the CISG and its Interaction with Swiss Law in Case of Fundamental Errors*, BAKER MCKENZIE: BLOG (Dec. 4, 2019), <https://globallitigationnews.bakermckenzie.com/2019/12/04/switzerland-new-landmark-decision-on-the-applicability-of-the-cisg-and-its-interaction-with-swiss-law-in-case-of-fundamental-errors/> [<https://perma.cc/9SZE-QRY4>].



Moreover, such a choice replaces even mandatory provisions of the law which would apply if the parties had not chosen the CISG.<sup>178</sup> All the arguments and considerations against non-state law's applicability, such as legal insecurity, lack of democratic legitimation, and uncertainty about the quality of its content, simply do not apply to the CISG. If the CISG may be chosen by selecting one of 94 national laws in accordance with Art. 1(b) CISG, it is quite astonishing even to discuss if it may be chosen as a law.

A more difficult question is what kind of circumstances may be interpreted as an implied choice of the CISG and thus the exclusion of Art. 3(2) CISG. Indeed, the choice of applicable national law by itself does not say anything about the exclusion of Art. 3(2) CISG. However, it may well be that there are sufficient indications in the contract that parties wish for the CISG to apply. An excellent example for the usual international standard may be found in Art. 4 of the Hague Principles on Choice of Law in International Commercial Contracts of 2015, which provides that a choice of applicable law "must be made expressly or appear clearly from the provisions of the contract or the circumstances."<sup>179</sup> In such a case, concrete references to some provisions of the CISG or previous practice between the parties may indicate an implied choice of law.<sup>180</sup> Any kind of territorial circumstances, such as contract conclusion, choice of forum, or place of performance, do not indicate an implicit choice of the CISG but rather an implicit choice of national law. An implied choice of the CISG as the governing law has the same effect as an express choice to use the CISG.

#### *D. Exclusion of Art. 3(2) CISG by Virtue of PIL Rules Applicable Absent a Choice of Law*

It is conceivable that the parties to a product-service integrated contract will not choose a governing law. In such a case, the default rule in Art. 1 CISG will determine the CISG's applicability. The presence of both goods and services,

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<sup>178</sup> HONSELL, *supra* note 102, at 51, ¶ 15.

<sup>179</sup> Hague Conference on Private International Law, *Principles on Choice of Law in International Commercial Contracts*, art. 4, Mar. 19, 2015. In comparative law we can find the standard varying between "clear demonstration," "reasonable certainty" of the implicit choice or "evident" choice of law. See Jan Neels & Eesa Fredericks, *Tacit Choice of Law in the Hague Principles on Choice of Law in International Contracts*, 44 DE JURE L.J. 101, 104–07 (2001).

<sup>180</sup> For similar examples given for national law, see Mario Giuliano & Paul Lagarde, Report on the Convention on the Law Applicable to Contractual Obligations, 1980 O.J. (C 282) 1, [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31980Y1031\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31980Y1031(01)&from=EN) [<https://perma.cc/4CAZ-WTKZ>].

although integrated, may lead to issues concerning the characterization of the contract triggering the application of rules of private international law leading to conflicting results in practice. We explore this problem in more detail in the following sections.

### 1. Goods vs. Services as a Problem of Characterization in PIL

Art. 1 CISG requires “parties whose places of business are in different States,” as long as these States are Parties to the CISG, or rules of private international law refer to a Contracting State.<sup>181</sup> When parties’ place of business is in two different contracting States, CISG provisions become applicable without consulting any private international law rule. However, if under Art. 3(2) CISG, the service obligations are preponderant compared to goods, the CISG will not apply as the contract is considered a service contract and not a sale of goods. In such a case, the private international law will determine the applicable national law to the contract. The applicable national law will define what constitutes a sale, service, or mixed contract. As a result, the national law applied instead of the CISG may consider the same contract in question to be a sales contract. In the end, national law will apply to a sales contract, not the CISG. To explain this problem, we need to take a step back.

Let us start from the premise that the otherwise applicable national law may have a different understanding of sales, service contracts, and mixed contracts. PIL as a legal discipline deals with the issues of considering two different, potentially applicable laws to one contract (CISG and national law). The CISG does not contain any classic conflict rules but leaves the conflict law to private international law. In case that both states in which the parties have their respective places of business are signatories to the CISG, the private international law will lead to possible applicability of the CISG under Art. 1(1)(b) CISG. The same is true if both States are signatories, but a court or a tribunal finds that the CISG is not applicable because the service obligation is the preponderant part of the contract. Essentially, in product-service integrated contracts, the private international law applies in two different situations: (1) when the parties have a place of business in different States that are not parties to the CISG, or (2) when the service obligation is preponderant under Art. 3(2) CISG.

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<sup>181</sup> United Nations Convention on Contracts for the International Sale of Goods, art. 1, Apr. 11, 1980, 1489 U.N.T.S. 3.

Which conflict rules apply to determine the applicable law depends on the dispute resolution body. The courts apply the forum's conflict rules; an arbitral tribunal will probably, but not necessarily, apply the conflict rules of the seat of arbitration.<sup>182</sup> In any case, once a court or a tribunal establishes the applicable conflict rules, it will then determine if the contract qualifies as a sale or as a service to determine which conflict rule within that state applies. Of course, this dilemma depends on whether the state in question has different conflict rules for sale and service contracts or one uniform solution. In PIL, finding the appropriate conflict rule is called characterization (classification, qualification).<sup>183</sup> It is an integral (holistic) process of interpreting the forum's conflict rules, carried out in two intrinsically linked phases. In the first phase, a court or a tribunal must subsume the legal issue from the circumstances of the case with a foreign element under the legal category (sales or services) of national conflict rules. The phase where the court or a tribunal chooses the appropriate conflict rule is known as the "first characterization." In the second phase, as soon as it chooses the conflict rule referring to applicable law (*lex causae*), the court or a tribunal must subsume the substantive rules of that applicable law under the legal category of the same (chosen) conflict rule.<sup>184</sup> In such a case, the choice of applicable substantive rules apply to the legal issue that has been made. This phase is known as the "second characterization." The legal category of the chosen conflict rule *lex fori* represents a central and essential point of the characterization process. The main task of characterization is to delimit the substantive scope of applying the forum's conflict rules.<sup>185</sup> Considering that characterization is one of the most challenging and controversial topics in conflicts of laws,<sup>186</sup> we will elaborate in further detail.

If the State where parties have their places of business are not in contracting States to the CISG, the court's conflict rules (*lex fori*) or, in most cases, the law of seat in arbitration (*lex arbitri*) will apply. The rules of the *lex fori/lex arbitri*

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<sup>182</sup> Linda Silbermann & Franco Ferrari, *Getting to the Law Applicable to the Merits in International Arbitration and the Consequences of Getting it Wrong*, in CONFLICT OF LAWS IN INTERNATIONAL ARBITRATION 257, 282 (Franco Ferrari & Stefan Kröll eds., 2010).

<sup>183</sup> Véronique Allarousec, *A Comparative Approach to the Conflict of Characterization in Private International Law*, 23 CASE W. RES. J. INT'L L. 479, 479 (1991).

<sup>184</sup> Compare JAN KROPHOLLER, INTERNATIONALES PRIVATRECHT 113 (2006), and PAUL H. NEUHAUS, DIE GRUNDBEGRIFFE DES INTERNATIONALEN PRIVATRECHTS 112 (1976), with HELMUT WEBER, DIE THEORIE DER QUALIFIKATION 230 (1986), and DIRK LOOSCHELDERS, DIE ANPASSUNG IM INTERNATIONALEN PRIVATRECHT 140–41 (1995).

<sup>185</sup> ABBO JUNKER, INTERNATIONALES PRIVATRECHT 133–34 (1998); KROPHOLLER, *supra* note 184, at 114.

<sup>186</sup> PIPPA ROGERSON, COLLIER'S CONFLICTS OF LAWS 268 (4th ed. 2013).

determine a conflict rule for sales contracts or services. Once this choice is made, even if the state's conflict rules refer to a state which is party to the CISG, the CISG will not always apply, as suggested under Art. 1(1)(a) CISG.

The CISG will only apply if the laws *lex fori/lex arbitri* consider the contract to be a sales contract. If the laws *lex fori/lex arbitri* would consider the contract to be a service contract, under the second characterization, the CISG, as a sales convention, would not even be consulted. Once the court/tribunal determines that foreign law is applicable (*lex causae*), it must choose the substantive rules of applicable foreign law applicable to the case with a foreign element (second characterization). The choice of applicable substantive rules opens the following question: does the conflict rule of the forum refer to the foreign law *in its entirety* or to the substantive rules of a specific part of that law (e.g., rules on service contracts or rules on sales contracts)? The question in terms of PIL relates to a clash of many theories of characterization. We will discuss the two most appropriate for the present discussion: the functional method of characterization<sup>187</sup> and characterization *lex causae* (per the applicable foreign law). We will advocate for the first option, the functional method of characterization, and explain the consequences of the second one.

Here, we make a short remark for the readers looking for autonomous characterization as one of the solutions, considering that the CISG is an international convention. Not only does the private international law consider that categories within an international convention shall have the meaning given by the CISG itself,<sup>188</sup> but also Art. 7(1) CISG confirms it.<sup>189</sup> However, the CISG is a convention on substantive commercial law (and not conflicts of laws or even public international

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<sup>187</sup> See KROPHOLLER, *supra* note 184, at 126; JÜRGEN BASEDOW, QUALIFIKATION, VORFRAGE UND ANPASSUNG IM INTERNATIONALEN ZIVILVERFAHRENSRECHT, *in* PETER FRIEDRICH SCHLOSSER, MATERIELLES RECHT UND PROZESSRECHT UND DIE AUSWIRKUNGEN DER UNTERSCHIEDUNG IM RECHT DER INTERNATIONALEN ZWANGSVOLLSTRECKUNG 131, 134 (1992); GERHARD KEGEL & KLAUS SCHURIG, INTERNATIONALES PRIVATRECHT 355 (2004); KLAUS SCHURIG, KOLLISIONSNORM UND SACHRECHT 222 (1980); BERNARD VON HOFFMANN & KARSTEN THORN, INTERNATIONALES PRIVATRECHT 229 (2007); MICHAEL SCHWIMANN, INTERNATIONALES PRIVATRECHT 22 (3d ed. 2001); HANNS-CHRISTIAN HEYN, DIE "DOPPEL-" UND "MEHRFACHQUALIFIKATION" IM IPR 29 (1986); GERHARD DANNEMAN, DIE UNGEWOLLTE DISKRIMINIERUNG IN DER INTERNATIONALEN RECHTSANWENDUNG 464 (2004).

<sup>188</sup> THOMAS RAUSCHER, INTERNATIONALES PRIVATRECHT 116 (4th ed. 2012).

<sup>189</sup> PETER SCHLECHTRIEM & PETRA BUTLER, UN LAW ON INTERNATIONAL SALES 48 (2009).

law)<sup>190</sup> and, as such, does not trigger the autonomous interpretation for private international law. In the absence of a default application under Art. 1(1)(a), the CISG will only apply after the second characterization is completed. Should the provisions of the CISG be determined as applicable substantive law, without a doubt, they shall be interpreted autonomously in line with Art. 7(1) CISG.

The characterization of a contract as goods or services is a unique process divided in two connected phases. The legal categories of the national conflict rules inevitably influence the choice of substantive rules of applicable foreign law.<sup>191</sup> Our position is that such a choice must be made according to the ratio, aim, and function of the relevant conflict rule that referred to that foreign law (i.e., the functional or teleological *lex fori* approach).<sup>192</sup> Put differently, the legal category of the *lex fori* conflict rule “attracts” (chooses) only those rules of the applicable law (*lex causae*) that correspond to its *ratio* and function, notwithstanding to which law area of that foreign legal system they belong (e.g., to its substantive or procedural law or family or succession law).<sup>193</sup>

## 2. Applicability of the CISG within the Second Characterization in PIL

Following the functional theory of characterization, the CISG will become applicable to mixed contracts under Art. 1(1)(b) CISG, only if the conflict rules of *lex fori/lex arbitri* consider the contract to be a sales contract. However, even in such a case, the CISG may consider the service obligation to be the preponderant part of the contract leading to a rather absurd situation. While looking for the applicable law, the laws of the *lex fori/lex arbitri* wanted the CISG to apply as the sales law, but the CISG does not consider the contract to be a sales contract under Art. 3(2) CISG. Suppose a German court determines that French law is the applicable law by virtue of Germany’s PIL and further characterizes the contract as a sales contract based on German law. In such a case, the court will apply the CISG, including its Art. 3(2) that may characterize the same contract as a service contract, making the CISG not

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<sup>190</sup> That is why Article 7 of the CISG may not be interpreted equally to Article 31 of the 1969 Vienna Convention. See HONNOLD, *supra* note 165, at 123.

<sup>191</sup> JAMES FAWCETT & JANEEN M. CARRUTHERS, CHESHIRE, NORTH & FAWCETT: PRIVATE INTERNATIONAL LAW 45 (14th ed. 2008).

<sup>192</sup> See Zlatan Meškić & Slavko Đorđević, *Bosnia and Herzegovina*, in INTERNATIONAL ENCYCLOPAEDIA OF LAWS: PRIVATE INTERNATIONAL LAW 46 (2018).

<sup>193</sup> See Allarousee, *supra* note 183, at 500; SCHWIMANN, *supra* note 187, at 22; GERHARD DANNEMANN, DIE UNGEWOLLTE DISKRIMINIERUNG IN DER INTERNATIONALEN RECHTSANWENDUNG 464 (2004).

applicable. Consequently, the French sales law would ultimately apply to the case. Therefore, in such a scenario, Art. 3(2) CISG should not be applied at all.

It is undisputed that the Art. 3(2) CISG is a rule on characterization. When the conflict rules of *lex fori/lex arbitri* determine that the CISG applies, national law decides on the first characterization, not the applicable law. In other words, once the *lex fori* determines that the contract is a sales contract, such a decision cannot be reversed even if the applicable law considers the contract to be a service contract. This is at least true for the States whose private international law follows the theory of functional characterization. In such cases, the application of Art. 3(2) CISG will be excluded under the functional characterization of the *lex fori*.

As discussed, the first characterization represents choosing the relevant applicable conflict rule in a specific case with a foreign element. The process begins with an interpretation of the legal relationship or the legal issue in question and ends with its subsumption under the relevant conflict rules' legal category. The essential question is which criteria of which law apply to the interpretation of the legal relationship or the legal issue in question (i.e., characterized): those of the *lex fori* or under the law of one of the countries which are connected with a case (*lex causae*). The prevailing view is that the first characterization should be done following *lex fori* criteria.<sup>194</sup> The legal relationships and issues should be interpreted under rules and standards of a national legal system and then subsumed under domestic conflict rules' legal categories. Thereby, the *lex fori* approach must be flexible to enable conflict rules to "embrace" similar legal concepts and issues.<sup>195</sup> The CISG can influence the *lex fori*'s understanding if that State is a party to the CISG. However, it would not be mandatory to consider the CISG because, at that stage, it would not (yet) apply to the case.

On the other hand, if there is no clear rule under domestic law, the court or arbitral tribunal may use Art. 3(2) CISG as guidance, at least when that State is a party to the CISG. If the *lex fori* understanding qualifies the contract as a sale contract and requires provision on sale contracts within the foreign law to apply, then Art. 3(2) CISG, when applied within that foreign law, cannot reverse that understanding and should be excluded from its application.

In contrast, it is possible that the private international law of the *lex fori* for courts or seat of arbitration in arbitral proceedings under Art. 1(1)(b) CISG to not

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<sup>194</sup> Allarousse, *supra* note 183, at 488; Robert A. Pascal, *Characterization as an Approach to the Conflict of Laws*, 2 LA. L. REV. 715, 720 (1940).

<sup>195</sup> MAJA STANIVUKOVIĆ & MIRKO ŽIVKOVIĆ, *MEĐUNARODNO PRIVATNO PRAVO, OPŠTI DEO* 249 (2008).

follow functional characterization and instead follow characterization *lex causae* (the understanding of the applicable law). This means that the applicable foreign law solves the sale versus service contracts problem according to its understanding. In such case, Art. 3(2) CISG will apply, and it may be that Art. 3(2) CISG considers the contract to be preponderantly a service contract and excludes the application of the CISG. This would happen, even when the *lex fori* does consider it to be a sales contract. Ultimately, it depends on the understanding of that national foreign law if national provisions on services or sales applied to the contract. It seems absurd that the whole, long process may eventually result in applying the national sales law (and not national service law) instead of the CISG.

The application of sale provisions of the national law to a contract which Art. 3(2) CISG considers being predominantly a service contract undermines the uniform regulation of the sale of goods contracts aimed at by the CISG. The drafters likely had in mind that if the CISG does not apply under Art. 3(2), the national law on service contracts applies. However, the CISG left private international law unregulated, so once the CISG excludes its application, it is entirely up to the national provisions on private international law and the national substantive law to determine the nature of the contract. The functional characterization avoids contradictory results between the court's national law and the applicable foreign law and should be the preferred option.

In the absence of a choice of law, explicit or implicit, one can expect that both potential conflict rules will lead to the same result. The seller's and/or service provider's place of business is the characteristic performance for both sales and service contracts, and therefore, the closest connection. In the case of integrated product-service contracts, the service provider/seller's seat will be the same place. This takes away from the importance of the decision the court or tribunal must make when deciding between sales and service conflict rules. The court or tribunal shall decide if it is a sale or service contract before applying the conflict rule, which could lead to the application of the CISG. Therefore, Art. 3(2) CISG will not apply.

*E. The CISG as the Appropriate Law to Govern Servitized Transactions: Policy Considerations*

Beyond a company-level benefit, servitization is finding its place in governmental policies, particularly as countries seek to identify incentives for re-industrialization and ways to increase the competitiveness of their own companies in

the global market.<sup>196</sup> The European Union, for example, launched a Manufacturing Service Ecosystem project to enable and incentivize the realization of products and services in virtual enterprises.<sup>197</sup> An essential feature of the project is to support small and medium companies and manufacturing enterprises in their transition from a product-centered approach to a servitized business model.<sup>198</sup> From a policy perspective, understanding of the challenges in such a transition and the needs of different sized companies to transition effectively is paramount,<sup>199</sup> even more so when considering that EU exports consist mainly of manufactured products—80% in 2013.<sup>200</sup>

As a driver and enabler of further product-service integration, the development of new technologies is reshaping the traditional understanding of the term “industry.”<sup>201</sup> *Industry 4.0* is gaining momentum to describe a transformation from purely manufacturing products to a more diverse approach. With the new technologies, the policy is not to substitute manufacturing processes but to innovate to add value to the manufacturing process and achieve a balanced approach.<sup>202</sup> There is little debate as to whether manufacturing is vital for economic growth simply because it is more resilient to external shocks.<sup>203</sup> In its opinion, the European Economic and Social Committee (“EESC”) addressed the need to empower the

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<sup>196</sup> See Crozet & Milet, *supra* note 15, at 2 (discussing the relevance of “the deeper integration of the production of goods and services” to policymakers in high-income countries who worry about the decline of manufacturing production and employment in their economies).

<sup>197</sup> Wiesner & Thoben, *supra* note 40, at 191–92.

<sup>198</sup> *Id.*

<sup>199</sup> *Id.* (“The development from product–service systems (product-centered approach) to services through product (solution-oriented approach) is seen as a key strategy for the European manufacturing industry, based on dynamic networks of companies . . . .”); see also Chiara Cimini et al., *The Transition Towards Industry 4.0: Business Opportunities and Expected Impacts for Suppliers and Manufacturers*, in 513 IFIP ADVANCES IN INFORMATION AND COMMUNICATION TECHNOLOGY (2017).

<sup>200</sup> Wiesner & Thoben, *supra* note 40, at 191–92.

<sup>201</sup> See, e.g., THE FACTORY-FREE ECONOMY: OUTSOURCING, SERVICIZATION, AND THE FUTURE OF INDUSTRY (Lionel Fontagné & Ann E. Harrison eds., 2017); Adam A. Ambroziak, *Reindustrialization or Servitization: Trade Tendencies in the European Union Internal Market*, in UNIA EUROPEJSKA WOBEC WYZWAN PRZYSZŁOŚCI 226–40 (Ewa Mahuszynska et al. eds., 2015); Bart Kamp, *Industrial Renaissance, Advanced Manufacturing and Servitization: An Introduction*, 89 EKONOMIAZ REVISTA VASCA DE ECONOMIA 19 (2016); Caroline Ennis et al., A Conceptual Framework for Servitization in Industry 4.0: Distilling Directions for Future Research (2020).

<sup>202</sup> See sources cited *supra* note 201.

<sup>203</sup> See sources cited *supra* note 201.



business environment to further strengthen the manufacturing industry in Europe through the manufacturing-service link.<sup>204</sup> The EESC highlights the broader societal benefits stemming from servitized industry, such as increased employment in middle-class income groups.<sup>205</sup> The governments in other parts of the world have recognized the importance of servitization, including the United States, Netherlands, Austria, and United Kingdom, all of which are signatory countries to the CISG.<sup>206</sup> With such a broader societal context, we see additional incentive to identify party autonomy as the prevailing test for applicability of the CISG to the contracts arising out of or connected with product-service integration.

The CISG continuously receives scholarly praise as the most successful international treaty, bridging legal traditions, cultures, and practices; creating a common language—*lingua franca*; and thus, offering a step towards a more *secure, safer, and less expensive world*:

*[The] CISG may therefore be not only a bridge between treaty made uniform law and international commercial practice, not only between common law and civil law, not only—in a more general sense—between different legal cultures, concepts, and languages, but also between the past and the future. In other words, it is not only a bridge, but an anticipation and anchor for the future.*<sup>207</sup>

With ninety-four signatory countries, the CISG continues to be a way for States to express their intent for creating and participating in a framework that ensures mutual benefits and equality in trading relationships.<sup>208</sup> They also seem to embrace the CISG as a guiding instrument for reforming or adopting their national contract law. In the

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<sup>204</sup> EESC Opinion (2014), *supra* note 9, ¶ 6.9.

<sup>205</sup> *Id.* ¶ 4.5; see also *id.* ¶ 3.8 (“The harmonization and cross-border recognition of professional qualifications should facilitate cross-border mobility among the regulated professions, which is also of particular interest to small and micro-companies.”).

<sup>206</sup> *Id.* ¶ 4.3 (listing different approaches to servitization worldwide, including “the Dutch ‘Smart Industry’ initiative of April 2014; the ‘Industry 4.0’ strategies of the Austrian regions; . . . the ‘Future of manufacturing’ project sponsored by the UK government; [and] the Smart Manufacturing Leadership Coalition—US”).

<sup>207</sup> János Martonyi, *Introduction, in* UNCITRAL, THIRTY-FIVE YEARS OF UNIFORM SALES LAW: TRENDS AND PERSPECTIVES 1, 5 (2015).

<sup>208</sup> For the official status of the CISG, see *Status: United Nations Convention on Contracts for the International Sale of Goods (Vienna, 1980) (CISG)*, UNCITRAL, [https://uncitral.un.org/en/texts/salegoods/conventions/sale\\_of\\_goods/cisg/status](https://uncitral.un.org/en/texts/salegoods/conventions/sale_of_goods/cisg/status) [<https://perma.cc/J8FQ-QVR4>].

Latin America region, for example, eighteen countries have acceded to the CISG.<sup>209</sup> Its popularity lies in its international character, clarity, and simplicity of party autonomy. This allows the parties to adapt substantive provisions to their particular contractual relationship, and the CISG's regime provides neutrality for the parties in the cross-border environment.<sup>210</sup> At the same time, we must acknowledge the pace of change in international trade driven by technological development. The face of international trade today is not the same as it was when the drafters designed the CISG. To enable the signatory States and the business community to benefit from the CISG's framework, it is essential to consider the changes in the market and seek interpretation methods that would make the CISG an "anchor for the future." Only then can the CISG achieve its purpose of contributing to the removal of legal barriers in international trade and promoting international trade development.

#### IV. CONCLUSION

Producers have begun to recognize the need to add services to their products to increase their competitiveness through innovation and adaptability to rapid technological development. Economic, strategic, and in some instances, environmental reasons drive the decision to transition to a product-service oriented model. On that journey, producers face layers of complexity to the production and post-production business dealings. To ensure the supply of resources, producers move to integrated supply chain systems with diverse suppliers. They further add customers as partners in the offering's design, as customer's preferences on functionalities and the use of goods are an essential parameter to consider. Such a relationship contributes to the co-creation of value between the manufacturers, suppliers, and customers. Once placed on the market, the final offering should satisfy the customers' needs over an extended time, so guarantees of durability and functionality are at the core of interest for the customers. Long-term use of a servitized product requires flexible, long-term agreements, which increasingly place value on notions of trust and collaboration. A network between different supply chain participants is a network of contracts requiring a stable and predictable framework to enable a successful transition to the new model and its interpretation. The CISG offers such framework in a globalized context, benefiting both the producers and allowing its signatory States to rely on an existing system to facilitate their policies that incentivize servitization. The application of the CISG depends on two elements. First, it will depend on the preponderant element in a product-service oriented model.

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<sup>209</sup> Ana Elizabeth Villalta Vizcarra, *United Nations Convention on Contracts for the International Sale of Goods*, in UNCITRAL, THIRTY-FIVE YEARS OF UNIFORM SALES LAW: TRENDS AND PERSPECTIVES 29, 34 (2015).

<sup>210</sup> *Id.* at 35.

The traditional approaches of comparing the economic value or aiming to sever the contracts are simply not appropriate. Party intent should be the prevailing criterion to determine the preponderant element of the contract and determined mainly by the services' role to the product; this is the only interpretation that fully considers the model's objective elements, purpose, and interests. We believe that the intentions of the CISG are clear in that as long as the parties intend to intertwine the product and services to enhance the product and its ease of use, the CISG should cover the contract. Besides, neither goods nor services are dominant in an integrated product-service model.

It is beneficial to parties to apply an already established, familiar, and uniform legal framework such as the CISG. Additionally, parties may face unnecessary legal insecurity and transactional costs if there is uncertainty as to when a contract falls under the CISG. This is especially true for parties that often trade under the CISG who are likely not inclined to be subject to any differentiation. Furthermore, it is hard to imagine when the application of the CISG could be disadvantageous to servitized sales compared to pure sales contracts.

Of course, we recognize that the CISG would most likely not apply to predominantly service-oriented servitization models, such as product-service systems. While the solutions in the CISG could, with a broader interpretation, even apply to pure service contracts, such interpretation goes beyond the intention of the CISG and would cross a line.