

Legal Protection of Technology Transfer Agreements

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Abstract

This study addresses technology transfer agreements as a legal phenomenon aimed at transferring technical knowledge between parties. A technology transfer agreement is defined as an agreement that involves the transfer of technical knowledge from a supplier to an importer. This type of agreement encompasses multiple characteristics, including the mutual consent of the parties and specific legal obligations. Technology transfer agreements are categorized into simple and complex types based on the level of detail and complexity.

Keywords: Agreement, Technology, Transfer, Protection

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Introduction

Technology transfer agreements are among the most important legal instruments that contribute to the transfer of knowledge and technological innovations from developed countries to developing countries or between companies and institutions within a single country. These agreements play a pivotal role in enhancing economic and technological development by enabling access to modern technology, thereby improving productivity and efficiency across various economic sectors.

Responsibility in technology transfer agreements is considered one of the fundamental elements that regulate the relationship between the contracting parties. This responsibility aims to define the obligations and legal consequences that arise if any party fails to adhere to the terms of the agreement or if damage occurs due to the use of the transferred technology. The issue addressed in this research is related to identifying and clarifying civil liability in technology transfer agreements and how it affects the relationship be-

tween the contracting parties. This issue includes the following questions:

- What are the legal foundations upon which legal responsibility in technology transfer agreements is based?
- What are the legal mechanisms used to protect the contracting parties from potential damages?

I. Legal Mechanisms Used to Protect the Parties

Technology transfer, also referred to as knowledge transfer technology or technology transfer (Technology Transfer), refers to the process of transferring technical or technological knowledge from one place to another, whether within the same organization, between different organizations, or across countries. This process includes the transfer of technical knowledge, patents, processes, industrial expertise, and other technical information that can be used in manufacturing, development, or production.

Linguistically and terminologically, the term "knowledge transfer technology" or "technology transfer technology" can be used interchangeably. The key differ-

ence lies in the focus on transferring technical and technological experiences rather than the direct transfer of information.

From a legal and jurisprudential perspective, laws and regulatory frameworks differ from country to country. However, in general, technology transfer processes require clear and written agreements that specify the terms of transfer, intellectual property rights, and financial compensation if necessary. The aim of these procedures is to protect the rights of the contracting parties and ensure a fair and mutual benefit from the transferred technology.

In general, knowledge transfer technology is an important mechanism for promoting technological and economic development, enhancing international cooperation in various fields such as industry, agriculture, and energy, and contributing to sustainable development and enhancing global competitiveness.

In today's technological world, technology transfer is vital for industrial and economic development. Technology transfer agreements include complex contracts that define the obligations and responsibil-

ities of the contracting parties, where the supplier (provider) and the importer (recipient) are in a mutual contractual relationship based on transferring technology and knowledge.

1. Responsibility of the Supplier in Technology Transfer

In technology transfer processes, the supplier (the transferring party) bears a significant responsibility, which includes the commitment to transfer the technical or technological knowledge completely according to the agreement made with the recipient party. This responsibility includes ensuring that the technology is transferred clearly and comprehensively, covering patents, processes, and methods, while ensuring that no inaccurate or unreliable information is included.

Moreover, the supplier is responsible for protecting the intellectual property rights associated with the transferred technology and providing the necessary technical support and training to the recipient to ensure the proper and effective use of the data. The supplier's responsibility also includes adherence to local and international regulatory and legal conditions,

along with full disclosure of any legal restrictions or challenges that may affect the transfer of technology.

Overall, the supplier's responsibility plays a vital role in the success of the technology transfer process, as it requires a thorough understanding of agreements and a commitment to international legal and technical standards, contributing to the establishment of long-lasting and fruitful cooperative relationships between the parties involved.

1.1 The Implications of the Supplier's Breach of the Technology Transfer Agreement

In the context of technology transfer agreements, a breach by the supplier of their contractual obligations represents a serious violation that can affect all parties involved. The content of a supplier's breach includes delays or failure to fully execute the transfer of technical knowledge, or providing inaccurate or insufficient information, which negatively impacts the recipient's ability to effectively use the technology within the specified timeframes.

Since technology transfer involves sensitive and informational data, the supplier's breach may also lead to violations of intellectual property rights or hinder the targeted technological development. Additionally, the breach may involve the failure to provide the necessary technical support or training to the recipient, thus obstructing the full utilization of the transferred technology.

1.2 Obligations of the Supplier in Technology Transfer Contracts

The supplier, as a party to the contract, can be either a natural or a legal person, such as the state or one of its institutions, or a natural person who owns or possesses the technical knowledge. The supplier is obligated to fulfill the main commitment, which involves providing the agreed-upon technology by transferring the technological elements specified in the contract and ensuring guarantees against infringement, entitlement, hidden defects, and ensuring the achievement of the desired result². These obligations are

² Al-Mu'tasim Billah Al-Gharbani, Commercial Law, Commercial Transactions, Commercial Contracts, Banking

addressed in separate subsections as follows:

Obligation to Transfer the Agreed-upon Technological Elements: The most important obligation that falls on the technology transferor is the primary commitment on which other obligations are based. This obligation entails transferring the subject of the contract, i.e., the technology itself, in the condition desired by the technology recipient in order to achieve the primary goal sought by the recipient. This includes transferring the other components that make up the technology. These components may be intangible, such as processes, technical knowledge, industrial skills, and various instructions transmitted through documents, and all rights that form the framework of industrial property, related to intellectual inventions and their ability to provide advanced solutions to technical problems. These elements may also be tangible, such as various services, industrial equipment, and other means, and the establishment and construction of facto-

ries and industrial plants, etc. Once the supplier fulfills their obligations³, the technology recipient becomes proficient and capable of managing the transferred technology and may develop it according to their needs, enabling technological progress in the field of that technology.

First: Obligation to Transfer the Intangible Elements of Technology: The supplier, as the owner of the technology, is obligated to deliver the subject of the contract to the recipient and enable them to benefit from the technological elements, including information and technical media that form the technology, such as patent rights, knowledge rights, or technical services⁴. Article 77, paragraph 1, of the Egyptian Commercial Code stipulates that the supplier must provide the importer with the necessary information, data, and other technical documents required to assimilate the technology, as

Operations, Dar Al-Jami'ah Al-Jadidah, Alexandria, 2007, p. 19.

³ Anas Said Atiyah Suleiman, Legal Guarantees for Technology Transfer to Developing Countries and Their Projects - A Study in the Legal Framework of the International Technological System, Dar Al-Nahda Al-Arabiya, Cairo, 1996, pp. 120-123.

⁴ Samaoui Reem Saud, Patents in Pharmaceutical Industries: Legal Regulation of Licensing Agreements in Light of the World Trade Organization, 1st ed., Amman, Dar Al-Thaqafa for Publishing and Distribution, 2008, p. 305.

well as the technical services needed for operation, particularly expertise and training. "The supplier is obliged to transfer and deliver complete technical and technological information." It should be noted that this provision is mirrored in Article 83 of the Palestinian draft law. The delivery of the intangible elements of technology is considered a legal act, where the technology subject to the technology transfer contract is placed under the recipient's control, enabling them to acquire and benefit from it. The recipient must be informed by the supplier that the contract subject is now at their disposal, and the supplier's obligation to transfer the technological elements is fulfilled through documents containing knowledge about the patent technology. These documents must include all necessary information on how to use the technology, whether for production, operation, or assembly, as well as detailed descriptions of each part of the agreed product. This also includes information on spare parts, maintenance procedures for the technology, raw material proportions needed for production, the

manufacturing location and prices of those materials, standard specifications for production, production methods charts, selection methods, and how to test and inspect production processes, as well as all technical and commercial data related to the technology, and anything else that might benefit the recipient in the production process⁵.

Second: Obligation to Transfer the Tangible Elements of Technology: The supplier is obligated to deliver the tangible elements of the technology, which include various services, such as the delivery of industrial equipment and other tools. This may also involve a complete industrial facility, including its installation and operation. The supplier is also required to fulfill other secondary obligations, such as providing the recipient with manuals containing the necessary instructions for the installation and operation of machinery and equipment and sending engineers and technicians to train the recipient's work-

⁵ Samaoui, Op. cit., p. 308.

ers⁶. The contract will specify the time and place for delivery, as well as the consequences of any breach, the responsibility for any damage or loss, and the conditions for exemption from liability. All of these terms are governed by the applicable law⁷.

The Egyptian Commercial Code in Article 78 outlines an obligation, stating, "The supplier is obligated, for the duration of the contract, to provide the importer, upon their request, with spare parts produced by the supplier and needed for the machines or equipment used in the operation of the recipient's facilities. If the supplier does not produce these parts in their facility, they must inform the recipient of where to obtain them." The legislator's goal behind this obligation is to ensure the proper use of the contract subject throughout the contract period. The spare parts mentioned are irreplaceable in the production process of the transferred technology. If the supplier does not produce the necessary spare parts, they are legally obligated to inform

the recipient of the sources to obtain them, even if this was not specified in the contract. This obligation continues for the duration of the contract to ensure that the recipient can maintain proper operation and production using the technology subject to the contract⁸.

2. Legal Basis for the Obligation of Warranty in Turnkey and Production Contracts

This type of contract (turnkey contract) first emerged in the United States after World War II as an investment option for technology transfer and the reconstruction of infrastructure in Europe following the destruction caused by the war. A turnkey contract refers to the provision of an industrial unit or "industrial complex" fully prepared and handed over to the importing country. Developing countries often resort to this type of contract for building highly technological ports and airports. This contract places all responsibilities on the foreign party, including providing equipment, construction,

⁶ Taghreed Abdel Hamid Abu Al-Makarem, The Obligation of Information in Technology Transfer Contracts, Doctoral Thesis, Ain Shams University, 2007, p. 194.

⁷ Taghreed Abdel Hamid, Op. cit., p. 195.

⁸ Ibid., p. 198.

and technical knowledge, with a responsibility that is only relieved upon proving a legal and contractual exemption cause⁹.

The advantages of this type of contract are briefly outlined as follows:

- A turnkey contract saves considerable effort in the research, development, and testing phases required to obtain technology, which often incurs high costs and long time periods.
- It allows for a quick alignment of views between the parties on all technical, legal, and financial matters during the negotiation phase.
- The obligations arising from the technology transfer process are encompassed in a unified contractual agreement.

Despite the benefits of turnkey contracts, they have faced legal and economic criticisms. These include: their high cost, which may not align with the financial capabilities of most developing countries. Additionally, legal scholar Philip Fauchard argues that the turnkey contract does not represent the optimal method for

technology transfer, as the recipient does not participate in the installation process of the transferred industrial unit, preventing local experts from acquiring detailed knowledge of the technology¹⁰.

- Production Turnkey Contract: Defined from the perspective of the supplier's obligations, it is "a contract in which the foreign party commits to establishing an industrial unit on a turnkey basis, in addition to providing technical assistance for its continued operation, including training local workers until they acquire the necessary experience to achieve the agreed-upon production both in quantity and quality¹¹." This enables the local workforce to gain sufficient technical knowledge to operate and utilize the technology until the desired final production results are achieved¹².

⁹ Mustapha Khouguera, *Technological Trade Between Unequal Countries*, CERIC, Marseille University Press, France, 1977, p. 99.



¹⁰ Nawal Al-Din, *Technology Transfer Contracts Between Negotiation and Submission*, Journal of Law, Faculty of Law, University of Yousef Ben Khedda, Algeria, Issue 01, Published on 31/03/2020, Issue No. 02, p. 52.

¹¹ Salah El-Din Jamal El-Din, *Technology Transfer Contracts: A Study in Private International Law*, pp. 129-131.

¹² Mahmoud Al-Kilani, *International Trade Contracts in the Field of Technology Transfer: KNOW-HOW: An Applied Study on Technology Transfer Contracts, Technical Assistance Contracts, Turnkey Contracts, Production Delivery Contracts, Research Contracts*, 1988.

Although this type of contract is widespread, its legal classification has not been agreed upon by scholars. One view is that it is an evolved form of the turnkey contract (or "heavy turnkey contract"), where the technology transferor's obligations expand based on the recipient's request for guarantees to achieve the intended goal of the transferred technology¹³.

On the other hand, some scholars consider the production turnkey contract to be a legally distinct contract from the standard turnkey contract, with independent obligations on the transferor. In a typical turnkey contract, the transferor is responsible for constructing an industrial unit ready for operation without enabling the recipient to control the technology. In order to achieve this goal, the recipient may seek additional contracts with parties other than the supplier, such as agreements for training and qualification. The production turnkey contract, however, is integrated from its inception with mutual obligations between both parties and does not require supplementary agreements. It

involves delivering the complete industrial unit in operational condition according to the agreement, including all necessary processes. International legal scholars tend to favor this perspective¹⁴.

The conclusion drawn from the advantages of this contract is that it arose from the demands of developing countries seeking full access to and control over the produced technology. The production turnkey contract ensures continuous technology flow and updates throughout the contract period, which may extend over a long time, allowing the recipient to acquire and control the technology. Furthermore, the results of technology transfer up to the production process are guaranteed based on the obligations of the technology transferor and their active contribution to the development process, making it easier to define their legal and contractual responsibilities from the execution phase to the production phase¹⁵.

However, this contract is criticized for its high cost and the long duration of contract execution, which may expose it

¹³ Samihah Al-Qalyoubi, Technology Transfer Contracts, Paper Presented at the Technology Center Symposium, Egypt, 2008, p. 1.

¹⁴ Ibid., p. 3.

¹⁵ Saleh Bin Bakr Al-Tayyir, International Technology Transfer Contracts, Op. cit., p. 86.

to unforeseen issues not anticipated by either party during contract formation. Some scholars argue that this type of contract exacerbates dependency, as the technology transfer process is mostly controlled by the transferor, especially with multinational companies adopting strategies that maintain control and monopolization without disclosing the secrets of the transferred technology¹⁶.

Thus, in the context of our study, contractual liability is considered a consequence of non-fulfillment of obligations. It arises from a breach of contractual obligations, and in the case of international technology transfer contracts, it follows the same principles as contractual liability in other contracts. To establish liability, the three essential elements—fault, damage, and causal relationship—must be present.

Since the source of contractual liability is the contract, and the contract is the result of the agreement between the contracting parties, they can agree to modify the terms of liability, either by intensify-

ing or easing the obligations on the debtor¹⁷ or even by exempting them entirely¹⁸. It is important to note that the conditions for determining contractual liability are commonly found in practice, especially in international transactions. When the elements of liability are present, the breaching party is subject to penalties.

II. The Liability Lawsuit in the Technology Transfer Contract Supplier

In the context of technology transfer contracts, the supplier plays a crucial role in ensuring the proper transfer of technical knowledge according to the agreed terms. However, in the case of supplier negligence or failure to fulfill obligations, a lawsuit for civil liability or compensation can be filed against them.

The liability lawsuit in a technology transfer contract involves several reasons, such as delays in transferring the technology, providing inaccurate or incomplete information, or violating intellectual prop-

¹⁶ Salah El-Din Jamal El-Din, Op. cit., p. 144.

¹⁷ As a Condition to Limit Compensation to Specific Amounts.

¹⁸ As a Condition for Exemption from Liability, See in Dr. Abdul Raouf Jaber, pp. 208-209.

erty rights related to the transferred technology.

Additionally, the liability lawsuit can include a claim for financial compensation due to damages caused by the supplier's failure, such as business losses or additional costs to correct errors or retrain employees on improperly transferred technology.

Since technology transfer contracts are typically complex, the parties involved must establish clear mechanisms for handling disputes, including specifying procedures for conflict resolution and identifying applicable laws in case of legal disputes.

In this way, a liability lawsuit can play a critical role in ensuring the proper execution of technology transfer according to the obligations of the contracting parties, fostering trust and transparency in business and technical cooperation.

1. Establishing Liability Based on the Duty to Prove Fault

Contractual liability arises from the contract itself, and the fault in it is a breach of contractual obligations. The contractual fault's interpretation and scope

depend on the circumstances of the agreement and what the parties have agreed upon. For fault to be valid, it must reach a certain degree of seriousness, and the standard applied is that of a reasonable person.

Damage is considered the second element of liability. It is not sufficient for liability to exist merely with the presence of fault; the fault must result in damage. If there is no damage, the liability lawsuit is not accepted, and no compensation can be granted, as a lawsuit cannot be filed without an interest in the matter¹⁹.

Contractual fault occurs when a party fails to fulfill its obligations under the contract. This fault can take several forms, such as total non-performance, partial or incomplete performance, defective performance, or delayed performance²⁰. In this context, fault occurs if the debtor (either the supplier or the recipient) does not perform all or part of their obligation or performs it in a manner inconsistent with the agreed-upon terms or what the law requires, such as delivering defective or

¹⁹ Mohammad Hussein Mansour, Op. cit., p. 370.

²⁰ Mahmoud Al-Kilani, Op. cit., p. 435.

inferior technical knowledge, or being late in fulfilling the agreed-upon deadline.

In practice, fault as an element of liability in international technology transfer contracts can take various forms. It may be intentional²¹ if the intent is to deliberately avoid fulfilling the obligation, or it may be unintentional, resulting from the debtor's negligence in performance. It may also arise from fraud or gross error.

Generally, the standard for non-performance depends on the type of obligation. If the obligation is for a goal or result, the debtor is considered in breach if the goal or result is not achieved. If the obligation is for a means or due care, the debtor is considered in breach if they fail to exercise the level of care that a reasonable person would²². In this context, fault as the basis for liability is exemplified when the supplier or recipient fails to comply with what was agreed upon in the contract. In this case, the debtor must exert reasonable effort to ensure the fulfill-

ment of the obligation and to achieve the result if they committed to it.

Based on the above, we will highlight the nature of fault on the part of the supplier in international technology transfer contracts, as they are the debtor in the obligation to transfer technical knowledge according to the agreed-upon methods. Accordingly, the supplier's fault is established in the following cases:

- Failure to transfer technical knowledge and technology or delaying the transfer.
- Failure to transfer technical knowledge and technology in a manner inconsistent with the agreement, such as late delivery, delivery at the wrong place, or non-conforming delivery²³.

It is important to note that the broad expansion of the scope of obligations to achieve a result in contractual agreements has led to the supplier's obligation in international technology transfer contracts regarding technical knowledge becoming an obligation to achieve results. This is because the supplier must transfer all the

²¹ Abdul Raouf Jaber, *Op. cit.*, p. 208.

²² Mahmoud Al-Kilani, *Op. cit.*, p. 428.

²³ *Ibid.*, p. 428.

material and immaterial elements of technical knowledge, such as information, technical means, and documents detailing how to manufacture, assemble, describe parts, maintain, and produce products to achieve the desired result. Therefore, the supplier's fault occurs when they fail to do this and, as a result, do not achieve the desired outcome.

Furthermore, the supplier's obligation to provide technical assistance to the recipient in both training and operation, as part of the technical knowledge, is also an obligation to achieve a result²⁴. This result is only achieved through the training of the recipient's workforce on operating and maintaining machinery used in production, or training them in project management using technical methods. This is only feasible by sending experts and specialists from the supplier to the recipient's facility for a period of time²⁵, especially during the application of the transferred technical methods and the initiation of manufacturing. Thus, the supplier's obligation to achieve the result concerning the

provision of technical assistance is only fulfilled when the transferred technical knowledge is implemented to enable local workers and management to control the operation and management of the industrial unit, as the technical knowledge being transferred is the one successfully applied by the supplier.

The supplier's technology has proven its ability and effectiveness through trials, and it must produce the same results at the recipient's facility with the same quality and specifications. If the results differ, such as failing to achieve the desired outcome, this constitutes a fault on the supplier's part, resulting in damage to the recipient. Thus, the supplier is liable for failing to fulfill the obligation to transfer technical assistance and cannot avoid responsibility unless they prove an external cause.

In addition to the previously mentioned cases of fault in international technology transfer contracts, other cases include:

- Delay in completing construction operations by the supplier at the agreed-upon time, despite receiving an extension,

²⁴ Ibid., p. 429.

²⁵ Deleuz (J.M.), Op. cit., p. 63.

but continuing the delay beyond the second deadline²⁶.

- The supplier's complete abandonment of performance without an acceptable reason and failure to resume, even after benefiting from an agreed period according to the contract²⁷.

- Non-compliance, meaning supplying raw materials, machinery, equipment, and technology that do not meet the specifications outlined in the contract.

- The supplier resorting to subcontracting without prior consent from the recipient as stipulated by the contract²⁸.

- The recipient's failure or refusal to pay the agreed price or any installment on time, despite being granted an additional grace period²⁹.

It becomes clear, after discussing the nature of fault in breaching international technology transfer contracts, that this fault is subject to different standards depending on the nature of the obligation.

To understand the nature of the obligation, whether it is a duty to exercise care or a duty to achieve a result, it is essential to refer to the source that created it. Both law and contract serve as sources of obligation. Therefore, referring to one of them will clarify the nature of the obligation, whether it is an obligation to exert effort or an obligation to achieve a result. In cases of dispute over the nature of the obligation, the contract must be referred to in order to determine what the parties intended³⁰.

The standard of fault in breaching international technology transfer contracts differs according to this nature. Hence, a fault in an obligation to exert care is established when the debtor fails to exercise the care that a reasonable person would in similar circumstances. On the other hand, a fault in an obligation to achieve a result is due to the failure to achieve the specified result. In this case, the obligation to achieve a result requires the debtor to ful-

²⁶ Abdul Raouf Jaber, *Op. cit.*, p. 214.

²⁷ *Ibid.*, p. 215.

²⁸ *Ibid.*, p. 215.

²⁹ Abdul Raouf Jaber, *Op. cit.*, p. 217.

³⁰ Mohammad Labib Shennab, *Lessons in the Theory of Obligation: Sources of Obligation*, ¹⁹⁷⁶, Dar Al-Nahda Al-Arabiya, pp. 08-09.

fill a specific outcome, which is the subject of the obligation. The fault here lies in the mere failure to achieve the result, even if the debtor exerted all efforts to achieve it.

Thus, the standard of fault in the obligation to transfer technical knowledge can be established if the supplier fails to transfer all elements of the technical knowledge, or only transfers part of it, or delivers it at the wrong place or time, or under conditions different from what was agreed upon. In such cases, the debtor must prove that they have fulfilled the obligation, meaning that they have achieved the required result. If they fail to do so, their liability is established due to the fault, and it suffices to prove the failure to achieve the result for the non-performance to be considered as existing and the debtor's fault to be imposed. The debtor can only avoid liability by proving the intervention of an external cause.

As for the obligation to exert care, the debtor is required to exercise a certain degree of care or make a specific effort to achieve the result. In this case, the fault is established if the debtor fails to make this

effort, i.e., does not provide the necessary care or attention as promised. This is the appropriate standard for proving fault in performance. The standard of care expected is that of a reasonably prudent and diligent person in similar circumstances³¹.

1.1 The Burden of Proving Fault

Determining who bears the burden of proof in legal disputes is of significant practical importance. This importance is particularly evident in situations where the party bearing the burden of proof fails to provide evidence to support their claim. In such cases, the judge will rule against the party who failed to prove their case, even if the opposing party took a passive stance, merely contesting the claim without proving its falsity³².

The burden of proof in administrative disputes is particularly important due to the unequal position of the parties involved, as the administration is often the defendant. Additionally, the administration enjoys certain privileges that complicate the individual's ability to present evidence. Therefore, proof in administrative

³¹ Mahmoud Al-Kilani, Op. cit., p. 435.

³² Adel Hassan Ali, Proof: "Obligations Provisions", 2nd ed., Zahra Al-Sharq Library, Amman, 1997, p. 42.

disputes takes on a particular importance, as will be explained below:

- **Burden of Proof in Regular Courts:** The term "burden" in the legal sense refers to a heavy responsibility or a weight that is difficult to bear³³. In legal terms, the burden of proof refers to the obligation of one party to present evidence supporting the truth of their claims. This obligation is called the "burden" because it is a heavy responsibility that the party must bear. The philosophical basis for this rule lies in respecting the apparent situation and the presumption of innocence. The burden of proof means obligating one of the parties to present evidence for their claims, or else the court will rule in favor of the opposing party. The party that initiates the lawsuit carries the burden of proof, which can be a significant responsibility that may result in them being denied their rights if they fail to prove their case³⁴.

The parties involved in the lawsuit are responsible for proving the truth of their claims. Each party is required to present sufficient evidence to convince the judge and allow them to form a reasonable conclusion. In other words, the parties must enable the judge to perform their judicial duties by presenting enough evidence to convince them. The burden of proof is a two-step process: first, the party required to prove their case must present evidence; second, the judge must evaluate this evidence and reach a conclusion. The burden of proof generally lies with the claimant, which is a widely accepted principle in modern legal systems and in Islamic law³⁵.

1.2 Establishing Liability Based on Damage

Damage is the second element of liability. It is not enough for liability to arise solely from the presence of fault; there must be actual harm caused by this fault. In fact, no matter how serious the fault, it does not in itself establish liability. Dam-

³³ Zouzou Huda, *The Burden of Criminal Proof*, Master's Thesis, University of Biskra, Algeria, 2005/2006, p. 81.

³⁴ Issam Ahmed Al-Bahji, *The Provisions of the Burden of Proof*, 2nd ed., Dar Al-Jami'ah Al-Jadidah, Alexandria, 2007, p. 97.

³⁵ Ibid., p. 99.

age refers to the harm that affects an individual due to the violation of one of their rights or a legitimate interest. This harm can be material, such as financial loss, or non-material, such as damage to their freedom, reputation, or emotional well-being.

Therefore, damage must involve not only the violation of an existing situation but also the infringement of a legally protected right. In any case, contractual liability does not arise merely from the presence of fault on the part of the debtor; it requires that the creditor suffers harm due to the non-performance of the obligation. If the non-performance does not result in harm to the creditor, no liability arises, and there is no grounds for compensation. For example, the liability of the technology transfer supplier does not arise from failure to deliver technical knowledge on time unless this delay causes harm to the recipient.

In fact, liability only arises once damage has occurred or when it is certain to occur. In general, damage as an element of contractual liability in international technology transfer contracts can affect

both the supplier and the recipient, depending on the source of the fault. If the fault results from the supplier's negligence, the recipient is the party harmed. Conversely, if the fault results from the recipient's failure, the supplier is the party harmed³⁶.

The damage suffered by a creditor in an international technology transfer contract—whether the supplier or the recipient—can be either material or non-material. Compensation includes both material and non-material damage. Material damage refers to any financial harm caused to an individual, such as a reduction in their financial benefits. In the case of the recipient, material damage may occur when the supplier fails to transfer the technical knowledge in its entirety, delivers it incompletely, or delivers it late or non-conforming to the agreed terms. For the supplier, material damage may occur if the recipient delays or fails to pay the agreed price, or pays it contrary to the terms of the contract.

Non-material damage, on the other hand, does not relate to financial harm but

³⁶ Mohammad Al-Kilani, *Op. cit.*, p. 440.

instead concerns the emotional, reputational, or dignity-related harm suffered by the creditor. There has been debate about whether non-material damage should be compensated, but this debate has largely been resolved, with a consensus now affirming that non-material damage should be compensated just like material damage, with experts being consulted to determine its value³⁷.

❖ **Actual and Future Damage:** Compensation may be provided for actual damage, i.e., damage that has already occurred, as well as for future damage, which has not yet occurred but is certain to happen. If the judge is unable to determine the extent of the compensation for future damage immediately, they can wait until the full extent of the damage is known. It is not sufficient for the damage to be merely probable or uncertain; compensation is only given for damage that is certain to occur.

❖ **Direct, Expected, and Unexpected Damage:**

1) Principally, compensation is limited to direct and expected damage, meaning any loss or missed gain that the creditor has suffered³⁸. This could include any financial harm that was expected, provided there were reasonable grounds for such an expectation. The type of damage, whether material or non-material, and whether current or future, does not affect this principle. Although non-material damage is rare in contractual liability, compensation should be given for any direct damage that naturally results from non-fulfillment or delay in fulfilling an obligation. It is considered compensable if the creditor could not have avoided it through reasonable efforts³⁹.

2) Compensation is limited to expected damage, which refers to damage anticipated by both parties when the contract was signed. However, if the debtor committed fraud or gross negligence, such as intentionally failing to fulfill their obligation, or if they were grossly negligent, they would be liable for all damage

³⁷ Mohammad Hussein Mansour, *Op. cit.*, p. 370.

³⁸ Mohsen Shafiq, *Technology Transfer from a Legal Perspective*, p. 67.

³⁹ Mohsen Shafiq, *Turnkey Contract*, *Op. cit.*, p. 76.

caused to the creditor, whether expected or unexpected. It is important to note that the expectation of damage does not only relate to the cause or nature of the damage but also its extent. If the damage was not expected at the time of contracting but later became expected, the debtor is not responsible for it. Moreover, the expectation of damage is measured by an objective standard, not a personal one. The expected damage is that which the average person would anticipate in similar circumstances, even if the debtor did not foresee it⁴⁰.

2. The Damage Incurred by the Technology Importer

The types of damage incurred by the parties in technology transfer contracts include material damage, moral damage, indirect damage resulting from the breach of the contract, and finally, expected and unexpected damage. These types of damages will be clarified as follows:

❖ First: Material and Moral Damage Resulting from the Breach of Technology Transfer Contracts

A. Material Damage: Material damage affects the creditor's financial interests or physical well-being according to general legal principles⁴¹. In the context of technology transfer contracts, material damage is defined as any financial loss suffered by one of the parties, such as the cost of transferring technological elements, or lost profits from not being able to use these elements to achieve their goals due to delays in fulfilling one of the obligations under the contract⁴². Thus, material damage may involve the total loss of technological elements or partial destruction or damage to them, resulting in either the complete inability to benefit from the economic value of these elements or a reduction in their value depending on the extent of the damage⁴³.

B. Moral Damage: Moral damage refers to harm affecting the personal or in-

⁴⁰ This is the condition which requires the debtor to pay a predetermined compensation amount for their breach of obligation, regardless of whether damage has occurred or its extent. See in this regard Dr. Mohsen Shafiq, Turnkey Contract, p. 77.

⁴¹ Abdul Razak Al-Sanhouri, The Mediator in Explaining Civil Law, Vol. 1, Theory of Obligations in General, Dar Ihya' Al-Turath Al-Arabi, Lebanon, 1964, p. 680.

⁴² Murad Mahmoud Al-Mawajda, Civil Liability in Technology Contracts, Dar Al-Thaqafa for Publishing and Distribution, 1st ed., Jordan, 2010, p. 196.

⁴³ Ibid., p. 196.

tangible aspects of a party's financial position in a technology transfer contract, excluding harm to the technological elements themselves. Examples of moral damage include reputational damage or the production of goods that do not meet the supplier's specifications, leading to poor marketability. The supplier may suffer material damage due to consumer reluctance to purchase these products, as well as moral damage due to the loss of consumer trust in the transferred technology. Moreover, any breach of a technology transfer contract may result in moral damage, which requires compensation⁴⁴.

❖ Second: Direct and Indirect Damage Resulting from the Breach of Technology Transfer Contracts

A. Direct Damage: Direct damage refers to the natural consequence of one party failing to fulfill their obligations under the technology transfer contract. For example, if the supplier delays delivering the technological elements to the importer within the agreed-upon timeframe, the

direct damage is the result of this delay. The distinction between direct and indirect damage lies in the causal relationship between the debtor's action and the damage suffered by the creditor. If the causal link exists, the damage is direct; if it does not, the damage is indirect. According to Algerian Civil Code Article 182, direct damage is the natural result of non-fulfillment or delayed fulfillment of an obligation, unless the creditor could have avoided the damage with reasonable effort⁴⁵.

B. Indirect Damage: Indirect damage occurs when the causal link between the breach of the obligation by the debtor and the damage to the creditor is broken. In such cases, the supplier is not liable for damage to the importer if the damage is not a natural consequence of the supplier's actions. Generally, only direct damage is compensable, whether in contractual or tort liability, while indirect damage is excluded from compensation⁴⁶.

⁴⁴ Article 182 of the Algerian Civil Code defines it as: Compensation for moral damage includes any violation of freedom, honor, or reputation.

⁴⁵ Murad Mahmoud Al-Mawajda, Op. cit., p. 199.

⁴⁶ Abdul Razak Al-Sanhouri, Op. cit., p. 683.

❖ Third: Expected and Unexpected Damage in Technology Transfer Contracts

A. Expected Damage: In technology transfer contracts, the debtor is obligated to compensate only for the expected damage, which is the damage that the debtor could have reasonably predicted in terms of its cause or extent at the time of signing the contract. The assessment of whether damage is expected is based on an objective standard, not a personal one. It is determined by comparing the debtor's behavior to that of a reasonably prudent person in similar circumstances⁴⁷.

B. Unexpected Damage: Unexpected damage refers to damage that has not occurred yet, or that is not likely to occur in the future. Therefore, the debtor is not liable for unexpected damage unless it occurs and can be quantified. For example, if technological elements are purchased with a lien attached to them, the creditor (importer) cannot claim compensation from the supplier for the potential damage unless it materializes. The law limits liability to expected damage, which is understood to be the type of damage

that the parties anticipated when they contracted, with the assumption that the debtor agreed to this scope of liability⁴⁸.

3. The Causal Relationship Between Fault and Damage in Technology Transfer Contracts

In technology transfer contracts, the causal relationship between fault and damage concerns the effect that the fault may have on the performance or expected outcomes of the transferred technology. The causal relationship is fundamental in determining the liability of the at-fault party and the extent of compensation that should be paid to the affected party.

❖ Elements of the Causal Relationship: To prove the causal relationship between fault and damage, several key elements must be present:

– Existence of Fault: The affected party must prove the existence of a specific fault on the part of the supplier. The fault could involve technical defects, neglect in execution, non-compliance with specifications, or the provision of incorrect information.

⁴⁷ Murad Mahmoud Al-Mawajda, Op. cit., pp. 201-202.

⁴⁸ Abdul Razak Al-Sanhouri, Op. cit., p. 685.

- Causality of the Fault: The proven fault must be the direct and clear cause of the damage suffered by the importer. This requires identifying how the fault reasonably contributed to the negative outcomes.

- Resulting Damage: The affected party must clarify the damage incurred as a result of the fault, whether it is financial damage, delay in productivity, or loss of market opportunities.

- Challenges in Proving the Causal Relationship: Parties may face challenges in proving the causal relationship, especially when other factors and interferences are the primary cause of the damage. This requires careful analysis and the use of technical and economic expertise to determine the extent of the fault's impact on the outcomes.

- Expected Causal Relationship: Sometimes, the causal relationship may be anticipated rather than direct. This means that it may be assumed that the fault related to the design or implementation of the technology contributed to un-

expected or inaccurately calculated outcomes⁴⁹.

- Loss Assessment: The affected party must estimate the losses resulting from the fault in a precise and calculated manner. This includes estimating financial losses, additional costs for corrections, and any negative impact on the company's reputation or business opportunities⁵⁰.

In summary, the causal relationship between fault and damage in technology transfer contracts is key to determining liability and compensation. This requires strong evidence linking the alleged fault to the negative outcomes suffered by the other party, with a focus on technical and economic analysis to determine the appropriate level of compensation.

The key points of the causal relationship in technology transfer contracts include:

⁴⁹ Al-Tayyib Zrouti, *Algerian Private International Law*, Vol. 1, Conflict of Laws, Al-Fasila Printing, 2nd ed., Algeria, 2008, p. 243.

⁵⁰ Moqaddem Said, *The Theory of Compensation for Moral Damage in Civil Liability*, National Book Foundation, Al-Nakhla Printing, Algeria, 1991, p. 191.

– Impact of the Fault on Performance: If there is a fault in transferring the technology or fulfilling contractual obligations, it may lead to the failure to achieve the expected performance from the transferred technology. For example, if the necessary training for users is not provided, it may result in ineffective use of the technology, leading to economic losses for the importer.

– Economic Consequences: The affected party must prove that the alleged fault caused specific economic losses or damage. This requires supporting evidence and facts that clarify how the fault affected the expected financial or technical outcomes.

– Defects in Technology: If there are technical flaws or issues resulting from the fault, these defects can prevent the importer from using the technology as agreed upon, causing delays or failure to meet the desired objectives.

– Legal Proof: The affected party must prove the existence of the fault and demonstrate that this fault was the actual and clear cause of the damage incurred. This includes proving the supplier's fail-

ure to meet its legal and contractual obligations and clarifying how this breach led to the damage.

In summary, the causal relationship between fault and damage in technology transfer contracts is connected to the impact of the fault on performance and expected outcomes. There must be clear evidence linking the actual fault to the resulting damage in order to determine liability and appropriate compensation⁵¹.

Conclusion

In conclusion, this article has explored technology transfer contracts as a vital tool for transferring technical and technological knowledge between contracting parties. It has been shown that a technology transfer contract encompasses the obligations and rights of both the supplier and the importer, with a focus on the legal nature surrounding these contracts and how they are applied according to the applicable laws.

It can be said that technology transfer contracts are a fundamental tool for enhancing technical and economic exchange

⁵¹ Moqaddem Said, Op. cit., p. 194.

between countries and companies. They play a crucial role in promoting innovation and industrial development in the modern era.

Technology transfer contracts are considered a vital instrument for enhancing technical and economic cooperation between countries and companies. Through the study and analysis of these contracts, several important findings and recommendations can be drawn:

Findings:

- Enhancing Technological Exchange: Technology transfer contracts significantly contribute to the transfer of modern technical and technological knowledge between contracting countries, thereby enhancing their ability to achieve industrial development and innovation.

- Stimulating Innovation: By fostering technical and technological partnerships, these contracts contribute to stimulating innovation and developing new so-

lutions across various fields such as medicine, engineering, and sciences.

- Supporting Sustainable Growth: Cross-border technical and technological contracts are part of strategies to achieve sustainable growth and strengthen national economies through the modernization of infrastructure and increasing production efficiency.

- Improving Competitiveness: By utilizing the advanced technology transferred, companies and countries can enhance their competitiveness in the global market through the development of new products and the improvement of processes.

By utilizing these findings, stakeholders can enhance international cooperation and technological innovation, achieving sustainable growth and effective use of transferred technology, which will benefit economies and societies in the long term.

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