

THE USEFUL LIFE OF PRODUCTS AND CONSUMER LAW: SOFTWARE OBSOLESCENCE, THE RIGHT TO REPAIR, AND SUPPLIER LIABILITY

**A VIDA ÚTIL DOS PRODUTOS E O DIREITO DO CONSUMIDOR: OBSOLESCÊNCIA POR
SOFTWARE, DIREITO AO REPARO E RESPONSABILIDADE DO FORNECEDOR**

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ABSTRACT: The advancement of digitalization has modified the very nature of durable consumer goods. Products previously understood predominantly as physical objects have become dependent on software, updates, remote servers, applications, authentication, and digital services maintained by the manufacturer. In this context, a materially intact good can lose essential functions or become economically useless by unilateral decision of the supplier,

whether through the interruption of updates, the termination of cloud services, deliberate incompatibility with replacement components, restriction of independent repair, or software modifications that reduce performance or functionality. This article investigates whether the Brazilian consumer protection system, even before specific legislation on the right to repair, offers sufficient basis for recognizing protection of the so-called digital lifespan of products. A deductive method is adopted, with bibliographic, legislative, and jurisprudential research, based on the principles of vulnerability, objective good faith, transparency and trust, the duties of information and quality, the rules relating to defects and warranties, and article [...]. This article examines Article 32 of the Consumer Protection Code and the jurisprudence of the Superior Court of Justice regarding the useful life criterion of goods in cases of hidden defects. It also examines Bill No. 805/2024 and Directive (EU) 2024/1799 as elements of prospective and comparative law. It argues that the consumer acquires not only the physical structure of a connected product, but also a legitimate expectation of maintaining its essential functionality for a period compatible with its reasonably expected durability. It concludes that premature digital discontinuation, when foreseeable, artificial, uninformed, or technically avoidable, may constitute a violation of the duty to inform, an abusive practice, a defect of suitability, or a breach of ancillary duties arising from good faith, without prejudice to the need for a concrete analysis of the safety, technical feasibility, and economic proportionality of each case.

Keywords: Consumer Law; digital lifespan; planned obsolescence; right to repair; software.

RESUMO: O avanço da digitalização modificou a própria natureza dos bens de consumo duráveis. Produtos antes compreendidos predominantemente como objetos físicos passaram a depender de softwares, atualizações, servidores remotos, aplicativos, autenticações e serviços digitais mantidos pelo fabricante. Nesse contexto, um bem materialmente íntegro pode perder funções essenciais ou tornar-se economicamente inútil por decisão unilateral do fornecedor, seja pela interrupção de atualizações, pelo encerramento de serviços em nuvem, pela incompatibilidade deliberada com componentes de reposição, pela restrição ao reparo

independente ou por modificações de software que reduzam desempenho ou funcionalidade. O presente artigo investiga se o sistema brasileiro de proteção ao consumidor, mesmo antes de legislação específica sobre direito ao reparo, oferece fundamento suficiente para reconhecer uma tutela da chamada vida útil digital dos produtos. Adota-se método dedutivo, com pesquisa bibliográfica, legislativa e jurisprudencial, a partir dos princípios da vulnerabilidade, boa-fé objetiva, transparência e confiança, dos deveres de informação e qualidade, das normas relativas aos vícios e à garantia, do art. 32 do Código de Defesa do Consumidor e da jurisprudência do Superior Tribunal de Justiça acerca do critério da vida útil do bem em vícios ocultos. Examina-se, ainda, o Projeto de Lei n. 805/2024 e a Diretiva (UE) 2024/1799 como elementos de direito prospectivo e comparado. Sustenta-se que o consumidor não adquire apenas a estrutura física de um produto conectado, mas uma expectativa legítima de manutenção de sua funcionalidade essencial durante período compatível com sua durabilidade razoavelmente esperada. Conclui-se que a descontinuação digital prematura, quando previsível, artificial, não informada ou tecnicamente evitável, pode configurar violação do dever de informação, prática abusiva, vício de adequação ou inadimplemento de deveres anexos decorrentes da boa-fé, sem prejuízo da necessidade de análise concreta da segurança, viabilidade técnica e proporcionalidade econômica de cada caso.

Palavras-chave: Direito do Consumidor; vida útil digital; obsolescência programada; direito ao reparo; software.

1 INTRODUCTION

Consumer legal protection has always accompanied economic transformations capable of accentuating the inequality between producers and consumers. Industrialization, mass production, and adhesion contracts have altered the traditional form of contracting and demonstrated the inadequacy of a purely civil law model founded on formal equality between the parties. In Brazil, the 1988 Constitution elevated consumer protection to the status of a

fundamental right and principle of the economic order, and Law No. 8,078/1990 structured a microsystem designed to compensate for the existing vulnerability in the consumer market.

Norat (2026) highlights that the Consumer Protection Code should be understood as more than just a collection of isolated rules: it is a system guided by its own principles and the purpose of balancing structurally asymmetrical relationships. This premise is especially relevant when examining technological phenomena that were not literally described by the 1990 legislator, but which reproduce, and sometimes amplify, the same informational and technical asymmetry that justified the creation of the consumer protection microsystem.

In recent years, digitization has shifted a significant portion of the functionality of durable goods to intangible elements controlled by the supplier. Smart TVs depend on operating systems and applications; automobiles incorporate software capable of activating, limiting, or modifying functions; security cameras and locks depend on remote servers; watches and wearable devices require synchronization applications; computers and phones depend on security updates; connected appliances may lose functionality when a platform is discontinued. The material ownership remains with the consumer, but part of the economic utility of the good remains technically subordinate to the manufacturer's decisions.

The central problem addressed in this article can be formulated as follows: can a supplier, after the sale, significantly reduce the usefulness of a durable product by discontinuing software, shutting down servers, blocking components, or artificially restricting repairs, even if the physical medium remains usable? In legal terms, the aim is to identify whether, based on existing regulations, there is a protectable expectation of a digital useful life corresponding to the reasonable durability of the product.

The hypothesis being defended is that the Brazilian legal system already contains sufficient normative bases to recognize this protection in concrete situations. The intention is not to assert an unlimited duty of perpetual updating, nor to impose on the supplier the indefinite

maintenance of economically unviable systems. The proposal is more delimited: when an essential functionality, objectively integrated into the offer and crucial to the product's usefulness, depends on digital support under the supplier's control, its premature, unpredictable, or unannounced withdrawal may violate the duty to inform, objective good faith, legitimate trust, and the guarantee of product suitability.

Methodologically, this study uses qualitative research of a bibliographic, documentary, and jurisprudential nature, with a deductive approach. The normative framework is formed by the Federal Constitution and the Consumer Protection Code, especially its articles 4, 6, 18, 24, 26, 31, 32, 39, 47, and 51. The jurisprudence of the Superior Court of Justice regarding the useful life of products serves as an important interpretative basis. Also analyzed are Bill No. 805/2024, currently under consideration in the Federal Senate, and Directive (EU) 2024/1799, which establishes rules aimed at promoting the repair of goods in the European Union.

2. Consumer Vulnerability in the Connected Products Economy

Vulnerability constitutes a fundamental structural basis of the National Consumer Relations Policy. Article 4, I, of the Consumer Protection Code (CDC) expressly recognizes the vulnerability of the consumer in the market. The rule does not describe an occasional fragility, but a structural position resulting from the way products are conceived, offered, and controlled. The asymmetry can be economic, legal, technical, and informational.

Norat (2026) explains that the consumer protection system breaks with the classic presumption of material equality between contracting parties precisely because the consumer does not, as a rule, have the same knowledge, resources, and negotiating power as the supplier. In the digital economy, this asymmetry intensifies. The consumer can observe the physical object, but does not know the source code, the server architecture, the authentication protocols, the internal update policy, the future availability of parts, or the business decisions that will determine the continuity of essential functions.

The buyer of a connected product rarely has the means to know, at the time of purchase, whether a particular function will remain available for two, five, or ten years. Nor can they assess whether a future incompatibility will result from a real technical need, security reasons, the inevitable shutdown of a platform, or a business decision aimed at accelerating the replacement of the device. The supplier, on the other hand, possesses the technical information and defines the support strategy.

This asymmetry reveals a specific form of technological vulnerability. It is not merely a lack of knowledge about how the product works, but the practical impossibility for the consumer to control external factors that are part of the product's utility. Physical ownership, therefore, ceases to signify full functional autonomy. The user may own the device and, simultaneously, depend on a license, an application, a server, or a digital key managed by a third party.

The legal consequence of this phenomenon is significant: the greater the consumer's post-sale dependence on the supplier's infrastructure, the greater the demand for transparency regarding the foreseeable duration of support and the consequences of any termination. Technological vulnerability does not, in itself, create automatic liability, but it reinforces duties of information, cooperation, and loyalty derived from objective good faith.

3. Objective good faith, trust, and the right to continue using the product.

Objective good faith, foreseen among the principles of the National Consumer Relations Policy, demands loyal and cooperative behavior in all phases of the contractual relationship. Its application does not end with the physical delivery of the goods. In products whose functionality depends on the continued action of the supplier, there are post-contractual duties capable of persisting as long as a legitimate trust arising from the offer itself remains.

Trust is particularly important when advertising presents a product as durable, intelligent, upgradeable, or integrated into a specific ecosystem. Consumers form expectations not only from the written contract, but also from the objective characteristics of the product, its

category, its price, marketing communication, and the standards normally associated with that type of product. The greater the investment and the more durable the product, the greater the rational expectation of its use over a significant period tends to be.

It would not be consistent with good faith, for example, to market equipment whose main functionality depends on a server that the supplier already knows will be shut down in the short term, without clearly and conspicuously disclosing this circumstance. Similarly, it may be legally problematic to remove a function through an update that was part of the offer and influenced the purchase decision, when there is no justification based on security or proportional technical impossibility.

Protecting trust doesn't mean indefinitely freezing technological products. Innovation presupposes the replacement of standards, the termination of protocols, and the evolution of systems. The legal point is not in prohibiting change, but in distributing the risks of that change. If obsolescence results from inevitable evolution and has been adequately communicated, the solution may differ from one where the loss of functionality is unilaterally created to stimulate new purchases.

Thus, an operating principle can be formulated: the supplier who maintains relevant technological control over the functioning of a product after the sale must exercise this power in a manner compatible with the legitimate trust created. The technical power to disconnect does not automatically equate to the legal right to disconnect without consequences.

4. The Duty to Inform and the Duration of Digital Support

Among the basic rights provided for in Article 6 of the Consumer Protection Code (CDC) is the right to adequate and clear information about products and services. Article 31 complements this protection by requiring that the offer ensure correct, clear, precise, conspicuous information in Portuguese about characteristics, quality, quantity, composition, price, warranty, expiration dates, and origin, among other relevant data.

When discussing basic rights, Norat (2026) associates freedom of choice with the availability of information that allows for a conscious decision. This relationship takes on particular importance in software-dependent products. If the consumer does not know how long essential updates will take, whether a particular function depends on an external server, or whether the product may cease to operate after the end of a platform, they lack sufficient information to compare alternatives.

Digital support time can be as economically important as memory, capacity, power, or physical size. Two seemingly equivalent products can have very different effective durability if one receives security and compatibility updates for seven years and the other for only two. The absence of this information prevents a rational comparison of cost over time.

From this observation arises a normative proposition: when the normal functioning of the product depends on continuous digital support, the expected duration of this support should be treated as an essential characteristic of the offer. If the supplier makes a specific commitment, for example, five years of updates, the statement binds the offer. If no express deadline is specified, the lack of information should not be automatically interpreted as authorization for immediate termination, as good faith, the legitimate expectation of durability, and the rules governing defects remain applicable.

It is also necessary to distinguish between convenience updates and essential updates. Not every product needs to indefinitely receive new features or aesthetic changes. However, security updates, compatibility updates, and maintenance of already acquired functions are of a different nature. When the absence of updates transforms a still physically useful product into unsafe equipment or one incompatible with advertised essential functions, the problem shifts from the realm of innovation to the realm of adequacy.

The duty to inform must also extend to cases of cloud dependency. The existence of a remote server essential for operation should be clearly disclosed, accompanied, whenever

possible, by information on the minimum service duration, termination conditions, and alternatives available to the consumer. Information provided after disconnection is insufficient when the risk was inherent from the point of sale.

5. LEGAL WARRANTY, HIDDEN DEFECTS AND THE USEFUL LIFE CRITERION

The legal guarantee occupies a decisive position in the proposed construction. Article 24 of the CDC establishes that the legal guarantee of suitability is independent of any express term, and the supplier is prohibited from contractually exempting themselves from it. The contractual guarantee, in turn, is complementary to the legal guarantee. Norat (2026) emphasizes that the legal guarantee arises from the law itself and does not depend on a declaration by the supplier, demonstrating that consumer protection is not limited to the conditions printed on the warranty certificate.

Article 26 establishes limitation periods for claiming apparent or easily detectable defects and determines, in paragraph 3, that, in the case of a hidden defect, the period begins when the defect becomes evident. The jurisprudence of the Superior Court of Justice has developed, based on this provision, a relevant distinction between the time limit for claiming and the period during which it is reasonable to expect the product to function properly.

In REsp 984.106/SC, the Fourth Panel consolidated its understanding that, regarding hidden defects, the Consumer Protection Code (CDC) adopts the criterion of the useful life of the good, and not simply the term of the contractual warranty. Subsequently, in REsp 1.787.287/SP, the Third Panel reaffirmed the possibility of holding the supplier liable for a hidden defect that arose after the end of the contractual warranty, provided that it was within the expected useful life and there was no demonstration of improper use by the consumer (BRAZIL, 2012; BRAZIL, 2022).

This case law provides the necessary dogmatic bridge to the idea of digital useful life. If the suitability of a durable product is to be assessed considering the period in which it is

reasonably expected to function, it does not seem coherent to limit this analysis exclusively to physical wear and tear. In hybrid products, whose usefulness results from the combination of hardware and software, functional deterioration caused by a digital element can produce an effect equivalent to a physical defect.

Consider a television whose screen, circuit board, and other components are fully functional, but whose system ceases to run all the applications that comprised its advertised purpose because the manufacturer prematurely interrupts essential support. The consumer preserved the physical structure but lost a substantial portion of its utility. In another example, a security camera may remain electronically perfect and become unusable due to the shutdown of the mandatory authentication server. The economic result is similar to the product breaking down.

The legal classification will depend on the case. If the closure results from a serious safety risk, supervening technical impossibility, or unavoidable external event, there may be no illegality. However, if the loss of functionality results from deliberate design, unjustified lack of support, omission of essential information, or a commercial decision incompatible with the reasonable useful life of the asset, it is possible to consider a defect in suitability and liability on the part of the supplier.

The useful life criterion avoids two extremes. On the one hand, it prevents the contractual warranty from being treated as authorization for any subsequent failure. On the other hand, it does not transform the supplier into a perpetual guarantor. Liability must be assessed on a case-by-case basis, considering price, product category, technology, parts availability, intensity of use, information provided, average lifespan, and cause of failure.

6. Article 32 of the Consumer Protection Code and the Reinterpretation of the Concept of Parts and Components

Article 32 of the Consumer Protection Code stipulates that manufacturers and importers must

ensure the availability of components and spare parts for as long as the product is being manufactured or imported, and that, once these activities cease, the availability must be maintained for a reasonable period. The rule was conceived in a predominantly physical environment, but its purpose remains relevant today: to prevent a durable good from becoming useless simply because the supplier has eliminated the means necessary for its repair.

Digitization requires a functional interpretation of this device. In certain products, replacing a physical part is not enough. The component may depend on firmware, calibration software, password, electronic pairing, cryptographic key, or remote authorization. If the manufacturer makes the part available but technically blocks its activation outside the authorized network, the material existence of the replacement may become legally illusory.

This does not mean that all software should be open source or that trade secrets should be fully disclosed. There are legitimate interests regarding intellectual property, cybersecurity, and product integrity. The challenge is to reconcile these interests with the consumer's right to preserve the usefulness of the purchased good.

A contemporary interpretation of Article 32 allows us to argue that the duty to ensure replacement must encompass, at least, the technical resources indispensable for the legitimately replaced component to function. If a new battery requires a digital pairing procedure, or if an original part needs a calibration tool, the absolute denial of access can produce an effect equivalent to the unavailability of the part.

The notion of a component, therefore, can acquire a functional dimension and not just a material one. In software-defined products, certain digital elements fulfill a role similar to that of traditional parts. Firmware, configuration keys, and recovery files may be indispensable for continued use. The concrete extent of this duty must observe proportionality, security, and the protection of sensitive business information.

7. THE RIGHT TO REPAIR AS AN OUTBREAKDOWN OF CONSUMER PROTECTION

The so-called right to repair is not limited to the physical possibility of opening a device. It is a set of conditions that allow the consumer to preserve, repair, and extend the use of the product by their own choice or through an independent service provider. It involves reasonable access to parts, technical information, tools, diagnostics, and the absence of artificial obstacles that make repair disproportionately difficult.

From a consumer perspective, the right to repair is related to freedom of choice, good faith, the prevention of abusive practices, and the economic function of durable goods. The obligation to exclusively use an authorized service network throughout the product's lifespan can, depending on the circumstances, create excessive economic dependence and artificially reduce competition in the after-sales market.

However, absolute formulations must be avoided. There are products whose repair by third parties can generate significant risks, especially when they involve high voltage, medical devices, critical safety systems, or components whose improper calibration poses a danger. In these cases, restrictions may be legitimate. The right to repair should be structured as a presumption in favor of repairability, admitting limitations justified by safety, data protection, intellectual property, or specific technical requirements.

The discussion gained legislative relevance in Brazil with Bill No. 805/2024, authored by Senator Ciro Nogueira. The proposal aims to amend the Consumer Protection Code (CDC) to curb planned obsolescence and regulate the right to repair. In May 2026, the Senate's Committee on Science, Technology, Innovation and Informatics approved a favorable opinion on the matter, which then proceeded to subsequent analysis (BRAZIL, 2024; BRAZIL, 2026).

The existence of the bill does not mean that the right to repair does not exist today. The legislative text is important because it clarifies and elaborates on duties, establishes mechanisms, and reduces uncertainties. However, several fundamental principles can

already be derived from the current Consumer Protection Code (CDC), especially from articles 6, 18, 24, 26, 31, 32, and 39. The future legislation, if approved, will tend to provide greater precision to a protection that already finds principled support in the system.

8. Planned Obsession, Digital Obsession, and Abusive Practices

The term “planned obsolescence” is used to describe strategies designed to deliberately reduce the economic or functional lifespan of products, encouraging more frequent replacement. The concept should be used with caution, as not all premature failures result from intentional planning. Products have technical limitations, innovation cycles, and natural wear and tear.

Digital obsolescence represents a specific category. It occurs when the loss of usefulness stems from software, authentication, servers, incompatibilities, or digital decisions controlled by the vendor. Identifying it can be more difficult than physical obsolescence because the cause is often hidden in the manufacturer’s code or infrastructure.

Some situations may indicate a risk of abuse: updates that reduce performance without demonstrable technical need; blocking of a functional part simply because it does not have an authorized serial number; abrupt shutdown of an essential server shortly after the sale; removal of an advertised function without an equivalent alternative; lack of security updates when the product remains within a reasonable period of use; or a design that makes simple repairs artificially dependent on an exclusive and inaccessible tool.

Article 39 of the Consumer Protection Code (CDC) prohibits abusive practices and contains a non-exhaustive list. Article 51, in turn, invalidates clauses that imply a waiver of rights or place the consumer at an excessive disadvantage. The combination of these rules with good faith allows for the analysis of conduct that, although technologically sophisticated, reproduces traditional forms of imbalance.

The deliberate intention to shorten the useful life may be relevant, but it will not always be indispensable for consumer protection. Defects in suitability and violations of the duty to inform can exist independently of proof of malicious intent. Requiring the consumer to provide direct proof that the company planned the obsolescence would make protection practically impossible, given the informational asymmetry. The analysis should prioritize objective facts: actual lifespan, technical cause, prior information, possibility of correction, and supplier behavior.

At this point, the dynamic distribution of the burden of proof plays a decisive role. Information regarding system architecture, reasons for shutdown, compatibility, update history, and technical alternatives is predominantly within the supplier's sphere. When plausibility and vulnerability are present, the reversal provided for in Article 6, VIII, may allow the company to demonstrate the technical justification for the measure.

9 Cloud-Dependent Products and the Server Shutdown Problem

Among the most sensitive cases are products that permanently depend on remote infrastructure. In these cases, the consumer is not just buying an object, but entering into an ongoing functional relationship, even when there is no monthly fee. The device may require periodic contact with a server to authenticate a license, process data, store settings, or execute commands.

This architecture creates a unique risk: the supplier can unilaterally withdraw from the market the infrastructure that keeps the product useful. The closure of a company, the sale of a division, a change in business model, or a simple strategic decision can turn thousands of devices into electronic waste.

The legal solution should consider whether the server dependency was essential and foreseeable, whether it was clearly communicated, the age of the affected products, whether a local solution or migration is possible, and whether the supplier adopted transitional

measures. In certain cases, enabling local functionality, providing final firmware, allowing data export, or offering proportional replacement may mitigate the damage.

When a company sells a product with strong expectations of durability and terminates the service a few months or years later without adequate prior notice, this conduct can frustrate the objective purpose of the contract. The loss should not be seen merely as the termination of a free service; it can represent economic destruction of a portion of the product itself.

It is necessary to distinguish between ancillary services and those without which the product cannot fulfill its primary function. Disabling a secondary promotional feature is not as serious as disabling authentication, which is essential for activating the equipment. The centrality of the function should guide the legal response.

10 SOFTWARE UPDATES: MAINTENANCE DUTY, SECURITY AND LIMITS

Software updates occupy an ambivalent position. They can extend the lifespan, fix vulnerabilities, and preserve compatibility, but they can also remove features, introduce incompatibilities, or degrade performance. Consumer law must assess both the omission of necessary updates and detrimental updates.

In internet-connected products, cybersecurity is increasingly integrated into the very notion of quality. A device without minimal updates can expose data, home networks, and user integrity. The expectation of reasonable security does not disappear simply because the flaw is immaterial. If the product is marketed for connected use, foreseeable digital risks must be integrated into support planning.

However, it cannot be demanded that every device indefinitely receive the latest version of a system. The obligation should focus on maintenance compatible with a reasonable lifespan, especially essential fixes and preservation of originally contracted functions. The creation of new features belongs to another area and may depend on commercial policy.

Updates that reduce performance require enhanced transparency. If the reduction is necessary to avoid battery risk, overheating, or instability, the supplier must state the reason and, when possible, offer alternatives. Hiding relevant effects may compromise consumer consent and violate the duty to inform.

The right to refuse must also be analyzed. In certain situations, allowing the consumer to keep the older version may be compatible with their autonomy; in others, the older version represents a security risk to third parties or to the network. The response should not be automatic, but proportional to the nature of the product and the risk.

11. European Experience and Comparative Law

In 2024, the European Union adopted Directive (EU) 2024/1799, aimed at promoting the repair of goods. This regulation is part of a broader strategy for sustainability and responsible consumption, and seeks to make repair a more accessible alternative to disposal and premature replacement. Among its objectives are strengthening the repair market, reducing barriers, and making information available to consumers (EUROPEAN UNION, 2024).

The European experience is relevant to Brazil not as a direct normative source, but as a comparative benchmark. It demonstrates that repairability has ceased to be a merely environmental issue and has become part of the consumer's economic protection agenda. Extending the useful life reduces individual costs and environmental externalities.

The dialogue between consumer law and sustainability is also based on Article 4 of the Brazilian Consumer Protection Code (CDC), which guides the National Policy on Consumer Relations towards improving quality of life and harmonizing interests. Artificially disposable products transfer costs to consumers and the community, in addition to stimulating waste generation.

The comparison also reveals a paradigm shift. Traditionally, consumer protection focused on

the moment of purchase and the repair of defects. The right to repair shifts attention to maintaining utility throughout the product's life cycle. This perspective is particularly suited to digital products, where post-sale decisions by the manufacturer can determine the economic lifespan of the good.

Comparative law, however, must be used with caution. The European legislative structure, ecodesign rules, and market organization differ from those in Brazil. Therefore, the Directive serves as an argumentative and prospective element, not as a direct basis for claims in Brazil.

12. BILL NO. 805/2024 AND THE POSSIBLE POSITIVE ESTABLISHMENT OF THE RIGHT TO REPARATION

Bill No. 805/2024 aims to introduce explicit rules against planned obsolescence and in favor of the right to repair into the Brazilian legal system. The legislative process demonstrates that the topic has ceased to be an exclusively academic discussion. On May 6, 2026, the Senate's Committee on Science, Technology, Innovation and Informatics approved the matter, which then proceeded to further legislative analysis (BRAZIL, 2026).

The proposal has both symbolic and normative importance. By addressing the right to repair, it acknowledges that consumer protection does not end with the replacement of a defective product under warranty. There is a legitimate interest in preserving the product, choosing the service provider, and reducing artificial barriers to maintenance.

From a dogmatic standpoint, future approval could reduce evidentiary controversies and offer more objective parameters. Even so, the absence of a specific rule does not preclude the use of the current Consumer Protection Code (CDC). The Brazilian system was built as a microsystem open to new market situations. A principled interpretation allows for technological practices that preserve the same economic essence of already known abuses.

The value of this project for the thesis of this article lies, therefore, in two aspects. First, it demonstrates the contemporary relevance of the problem. Second, it confirms that the notion of durability must encompass the real possibility of repair, and not simply physical integrity. Digital lifespan is a logical consequence of this expansion.

13. PROPOSAL FOR THE LEGAL CONSTRUCTION OF DIGITAL USEFUL LIFE

The term “digital lifespan” can be defined as the period during which a durable product, whose functionality depends on digital elements controlled by the supplier, must maintain reasonable technological conditions to perform its legitimately expected essential functions, subject to technical, safety, and proportionality limitations.

The definition contains five elements. The first is durability: the thesis does not apply to services that are naturally instantaneous or to clearly temporary content. The second is digital dependence: there must be a relevant relationship between the software, server, authentication, or platform and the usefulness of the good. The third is provider control: the loss must result from an element within their sphere of decision-making or responsibility. The fourth is the essentiality of the affected function. The fifth is temporal reasonableness.

Assessing reasonableness can utilize criteria similar to those employed for physical lifespan: price, category, advertising, warranty offered, average market expectation, parts availability, purpose, intensity of use, technological evolution, and information provided at the time of purchase. It should also consider the nature of the digital media and the cost of its maintenance.

Digital lifespan doesn’t need to exactly match physical lifespan. A product’s hardware might last fifteen years, but its reasonable technological support might be shorter. The essential point is that this difference must be justifiable, predictable, and communicated. An extreme disproportion between physical durability and digital support may indicate inadequacy, especially when the consumer hasn’t been informed.

From this structure arise possible duties of the supplier: to inform the minimum support period when known; not to arbitrarily remove essential functions; to provide security patches compatible with a reasonable period; to provide means of repair and activation of parts when technically safe; to plan for the transition in case of server shutdown; and to offer a proportionate solution when the business decision itself renders the product unusable prematurely.

The legal consequences may vary. The consumer may seek repair, reactivation, replacement, discount, restitution, damages, or injunctive relief, depending on the nature of the offense and the possibilities provided for in the Consumer Protection Code (CDC). In collective matters, the homogeneity of the technical problem may justify collective legal protection, especially when a single update or shutdown affects a large number of users.

Expert evidence will play a significant role. The distinction between artificial obsolescence and legitimate technological limitations often depends on specialized knowledge. Internal documents, support schedules, logs, technical notes, and update policies can clarify whether there was a reasonable alternative to closure. The reversal of the burden of proof should be used in a reasoned, not automatic, manner.

14 LIMITS OF THE THESIS AND RISKS OF EXCESSIVE RESPONSIBILITY

A legally sound theory must also define its own limits. Defending the lifespan of digital technology cannot become an obligation of perpetual support. Older systems can become insecure, libraries can cease to exist, encryption standards can be superseded, and maintenance costs can become disproportionate.

Technological innovation also generates benefits for the consumer. Forcing manufacturers to indefinitely maintain legacy systems could reduce investment, raise prices, and create safety risks. Regulatory protection must seek a balance between protecting consumer trust and economic viability.

For this reason, liability must depend on concrete factors. The simple termination of support after a long and clearly informed period does not equate to abusive obsolescence. Similarly, failure caused by unauthorized modification, normal wear and tear, incompatible use, or genuine technical impossibility may negate liability.

Transparency plays a central preventive role. A manufacturer that prominently displays the minimum update period allows consumers to incorporate this information into their purchasing decisions. Competition can then also shift towards digital durability. The most serious problem occurs when a product is sold as durable without any warning, and technological dependence is subsequently used to shorten its lifespan.

Proportionality should also guide remedies. In some cases, full compensation for the original value after many years would be excessive; in others, a simple discount on a new product may be insufficient. The length of time already used, the severity of the loss, and the possibility of repair should be considered.

15 Practical Impacts for Lawyering and Collective Legal Protection

The consolidation of digital lifecycle as a legal category would have significant practical effects. In individual legal practice, case analysis would no longer focus solely on the warranty certificate. It would be necessary to investigate the purchase date, the nature of the lost function, the advertised support policy, the update history, the expected lifespan, and the technical cause of the malfunction.

The production of evidence should begin with the preservation of digital documents: screenshots, shutdown messages, support pages, software versions, invoices, advertisements, and terms of use. In more complex disputes, expert analysis can demonstrate whether the product remains physically functional and whether the limitation stems from a logical block or a technical necessity.

On a collective scale, the issue has even greater potential. A faulty update or the shutdown of a server can simultaneously affect thousands of consumers. In these cases, collective actions can produce a uniform solution, reduce repetitive litigation, and encourage structural correction of the practice.

Administrative consumer protection agencies can also play a preventive role. Requiring clear information about support, investigating abrupt terminations, and encouraging standards of redress can reduce conflicts before they reach the courts.

The topic also relates to data protection and information security, although it is not the same thing. A digitally abandoned product can become vulnerable to hacking, turning a durability problem into a risk to privacy and security. The future legal response is likely to be interdisciplinary.

16 FINAL CONSIDERATIONS

Digital transformation has altered the relationship between consumer, product, and supplier. The sale of a connected good no longer implies a complete transfer of functional control. Part of its utility remains dependent on subsequent business decisions, executed by software, servers, authentications, and updates.

This reality demands an evolving interpretation of the Consumer Protection Code. The fact that Law No. 8,078/1990 was enacted before the widespread use of smart products does not preclude its application. Its principle-based character, the centrality of vulnerability, objective good faith, the duty to inform, the legal guarantee of suitability, the regulation of defects, and the duty to supply components allow it to address new forms of imbalance.

The jurisprudence of the Superior Court of Justice regarding hidden defects offers a particularly relevant basis by recognizing that the supplier's liability should be related to the product's useful life, and not only to the formal term of the contractual warranty. In hybrid

goods, there is no reason to limit the notion of useful life to the physical material when software and digital infrastructure objectively integrate the very economic function of the product.

Thus, the recognition of digital lifespan as a legally protected expectation of maintaining the essential functions of durable goods for a reasonable period was defended. This category does not create a perpetual guarantee. It requires consideration of safety, technical feasibility, cost, information provided, and usage time. Its objective is to prevent the use of post-sale technological power in a way that is incompatible with the trust that made the purchase possible.

Bill No. 805/2024 and Directive (EU) 2024/1799 demonstrate that repairability and obsolescence already occupy a central place in the contemporary evolution of Consumer Law. In Brazil, future regulations may provide greater precision to the subject, but they do not start from a legal vacuum.

Finally, the contemporary consumer doesn't just buy material goods. They buy functionality. When this functionality depends on digital elements controlled by the supplier, Consumer Law must examine the duration and removal of this support as part of the product's quality itself. The right to acquire a durable good increasingly tends to include the right to continue using what was purchased.

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