

# An universal payment for a balanced purchase

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## The relationship of trust is the basis of commerce

Commerce has its origins in a very limited trust area (the village, the tribe, the geographical neighborhood) on the basis of the barter: a good or a service for another good or another service.

The nearness of actors (the producer, the merchant, the customer, the consumer) and their relationship in the real space and the real time were often enough to form the basis of trust in the commerce act.

Over time, this commerce mode underwent major changes:

- arrival of the currency<sup>1</sup>, or of an exchange value which is neither a good nor a service.  
Currency requires to establish a shared trust;
- the merchant is no longer the producer of the goods or services; it becomes then necessary to establish trust in the purchase;
- the customer is travelling; the customer must find reliable merchants and establish in an instant a trust relationship.

The extension of the trust area involves the necessity of trust in the currency, in the purchase, in the instant.

## The organisation of commerce prior to globalization

Up to the arrival of the globalization of exchanges in the 1980s, these items have been considered in various ways depending on the typology of the states, of merchants and of customers.

The States-Nations, through their stability, have brought the trust in the paper-based currencies at a national level and some large states, such as the United States of America, have brought some trust at a global level.

Private cards have brought some trust:

- to customers among a specific merchants network;
- to merchants with a reliable customer base.

The merchant got organised with the producer by establishing a relationship of trust with him, based on the fact to have set up his shop: presence of brands, labels, certification, distribution network, points of sale, stores.

Each state has reinforced the regulation and control in view of customer protection, whose every customer may claim.

A global trust in the production and the distribution network has been established, while similarly, more and more persons, whatever social level they were belonging to, could reach the consumption of more and more goods and services.

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<sup>1</sup> Currency is defined, according to Aristote (source: ἡθικὰ Νικομάχεια), by three functions: unit of account, store of value and exchanges intermediary.

Means of payment then naturally focused on a mistrust of the customer and on the necessity for him to commit<sup>2</sup>.

## The web and globalization paradigm

The opening of exchanges (of goods, of services, of labour, of knowledge), the extension of the competition and the effects of the information technology (the web) enabled men to become closer and to get better integrated market, called globalization.

Globalization and e-commerce brought new difficulties to the customer.

The customer may legitimately wonder:

- Who is really the producer ? What are his motivations? Is he competent while producing ? How is the product manufactured ?
- Who is really the distributor ? What is his governance ? What are his motivations ? Will the distributed product be followed-up, maintained ?
- What is the currency I am using ? Does it guarantee my purchase in the instant, over time ? Does it guarantee the commerce organisation and my security as a customer ?

The legal and regulation framework of each state is not always enough to secure the relationship of trust. The judge adapts himself to the new paradigm in his limited area and his procedure timeframe.

## The relationship between the customer and the merchant is not well balanced

The new situation requires considering the relationship of trust in its new context.

On the web, the relationship between the customer and the merchant is not well balanced:

- when purchasing, on a legal standpoint, the customer does not necessarily get access to some readable terms and conditions he can store;
- when purchasing, on an ergonomic standpoint: the customer is led to a short-cut purchase act, less and less visible for him, with no possibility to withdraw with the same ergonomics;
- when purchasing, on the payment authentication: the customer may hardly authenticate the counterpart of the payment while his own payment is often strongly authenticated;

The purchase relationship between the customer and the merchant is more and more managed by the merchant. It is therefore not well-balanced, which damages the relationship of trust between them and the trust in the system itself.

## The emerging need for some principles

Some principles could enable to find a sound balance between customers and merchants:

- formalize the contractual link between the parties before the purchase;
- provide the customer with the capability to defend his rights;
- make the customer aware of his duties and of the risks.

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<sup>2</sup> It is usual to request the customer to present its identity card or to authenticate its payment as many professions / companies have no legal obligation to prove their identity to the customer or to authenticate their counterpart of the payment.

## **Formalize the contractual link between the parties before the purchase**

In the absence of laws between the countries or of supra-laws governing the commerce that would protect the customer and the merchant, a solution is the formalization of the commerce act before the payment, especially:

- of comprehensive terms and conditions of sales and/or usage including information related to the traceability, maintenance, appeal, data processing and competent jurisdictions;
- a clear writing of those terms and conditions to highlight important items<sup>3</sup>;
- an increased availability of those elements so that the customer may store and manage them in its own information system;
- and all this being available before the purchase act so that the customer might accept or not these sales terms and conditions.

## **Provide the customer with the capability to defend his rights**

In order to defend one's rights, it is necessary for those rights to have been defined beforehand (refer to previous paragraph).

The various elements that the customer owns must be possibly used and exchanged according to his own decision.

Defending one's rights is a matter related to the legal environment but also to the consumers associations, the trade unions, media.

It is therefore important that the elements that each party gets may be used while dealing with those actors.

How one of the following could be useful:

- a paper receipt whose ink rubs out very quickly ?
- a promise «you will receive an email including your purchase invoice», if this promise is not kept ?
- a flow of electronic signature or of data in an XML format ?

Most of customers will answer that they do not use those elements because they are not appropriate.

## **Make the customer aware of his duties and of the risks**

For the customer to become responsible for and aware of the duties and risks of his acts, including his purchase act, he must be able to get out of the passive behavior situation in his purchase relationship.

Many of these situations take place and they are often created by the merchant: too much advertising, unfair terms and conditions, response time constraint of a server, payment process with no possibility to go backward or to voluntarily validate a purchase, simplistic ergonomics by trying to simplify it, non communication of new sales terms and conditions to a customer when they are amended, non declaration of the merchant identity.

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3 It is edifying to realize that Wikipedia, a cooperative work of volunteers, tries to highlight the writing ambiguities and the lack of information sources, while lawyers of most of countries are working hard to propose contracts which cannot be understood or that are long enough, which prevents the customer to understand the important elements.

When we analyse the impact of this purchase on the hidden collection of information, on its use in the purpose of storing the customers' usage in the CRM and the Big Data factories, the customer often takes a non conscious risk to transform his web usage after the purchase.

## **Some solutions exist to enable the implementation of these principles**

We wish to share with you three innovations which enable to improve the implementation of these principles:

- the 2D-DOC technology
- the PDF system
- the settlement system via SEPAmail

### ***The 2D-DOC technology***

2D-DOC is a technology of static authentication of a document through a 2D bar code, which makes it easily readable by a phone, a handspray, a reader.

The issuer of the document is authenticated. Some structured data of the document as well as the type of the document are authenticated by the issuer of the document.

This recent standard has been invented by the company AriadNext and promoted by the National Agency of Secure Titles (Agence Nationale des Titres Sécurisés - ANTS).

It has been standardised in France especially to fight against the documentary fraud on proof of address and bank account details. It enables to guarantee the address information on the documents from public services, from large energy and telecom operators, from banks and from the government, and more generally, from any enrolled entity issuing a document.

We might use indifferently either the original or a copy as the document remains authenticated with the 2D-DOC.

This innovation provides the capability to defend one's rights. Indeed, when receiving a document, an entity (a person or a company) may check where it is coming from, and may easily give a paper copy or an electronic version without having to secure the exchange.

This technology might be used for instance for sales terms and conditions.

### ***The PDF system***

PDF<sup>4</sup> became so present in our daily usage that we just forget its power. We refer to a system as it is no longer simply an electronic version of the formerly physical paper, but THE electronic paper.

This format may be either viewed or printed. It is therefore readable by human beings and, when produced by a program, understandable by machines.

Anyone may sign, as one signs a paper based document with in addition the management of the

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4 The Portable Document Format, usually shortened as PDF, is a language to describe pages which has been created by the company Adobe Systems and whose specificity is to keep the wrapping of a file – writing fonts, pictures, graphical elements, etc – as it has been defined by its author, and this whatever software, operating system and computer are used to print or view the document.»

« PDF is an open format, which means that its specifications are published and that its creator Adobe Systems authorizes third party programs to reuse its format.»

The PDF format was created in 1993. It has been standardised under the reference ISO 32000-1:2008.

notices after signature (which remains more difficult with paper based versions). It is also easy to automate the control of the signature, while this process is difficult with paper based versions.

The PDF flow may easily be routed and archived (company, institution, individual), with a greater capability to index and to retrieve than with physical paper. An archive oriented variant is existing called the PDF/A-12. It includes all the interoperability components for a long timeframe. Another variant which is oriented towards reachability is also currently getting standardized.

This format succeeded to be essential these last 20 years in the electronic world.

Its usage in the commerce world would enable to smooth the routing, archiving of information such as the authentication and the responsibility acknowledgement of parties. It enables to formalize the contractual link. It also enables parties to defend their rights.

### ***The settlement via SEPAmail***

SEPAmail is a 4 coins secure multi-services messaging service between actors of trust. One of the services, the settlement via SEPAmail, enables a merchant to send a settlement request to a customer. In the context of this service, the actors of trust are the bank hosting the account of the merchant and the bank hosting the account of the customer.

The customer then receives the settlement request in the interface and one of its bank channels. The settlement request, through the SEPAmail system, includes the XML data of automated processing and a documentary evidence of the merchant in PDF format.

The customer has time to consult the various elements before making his decision. This decision, if positive, results in a credit transfer that is non repudiable and without any risk for the merchant.

Initially designed to replace the payments by cheques and by TIP (Titre Interbancaire de Paiement - Payment Interbanking Security), the settlement system via SEPAmail proves to be very virtuous for some e-commerce groups:

- the merchant may send some comprehensive terms and conditions in PDF format with his settlement request and thus propose a real transparency;
- the bank identifiers of the merchant and of the customer are not shared any more during the purchase act and are kept confidential within the bank world;
- both actors, merchant and customer, are authenticated each one by their own bank;
- the settlement request flow, prior to the payment flow, is routed through the 2 banks: this flow may not be disputed any more.

The clear division of the flows «settlement request» and «payment» that is enabled by the settlement system via SEPAmail brings the expected balancing between the merchant and the customer.

## **Conclusion**

To propose a new payment standard on the web via the w3C is a very good opportunity to formalize and propose principles to comply with for the purchase and payment relationship between merchants and customers.

Working on the basis of these principles, it will be possible to analyse the mark of current means of payment and, if they are not compliant enough, to invent new payment ways that would be more universal.