



HAL
open science

The impact of development of customer online banking skills on customer adviser skills

M. Dubois, M.-E. Bobillier Chaumon, Didier Retour

► To cite this version:

M. Dubois, M.-E. Bobillier Chaumon, Didier Retour. The impact of development of customer online banking skills on customer adviser skills. *New Technology, Work and Employment*, 2011, 26 (2). halshs-01206544

HAL Id: halshs-01206544

<https://shs.hal.science/halshs-01206544>

Submitted on 26 Jul 2017

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

The impact of development of customer online banking skills on customer adviser skills

Michel DUBOIS*, Marc-Eric BOBILLIER-CHAUMON**, Didier RETOUR***

*Michel DUBOIS, Professor of Work Psychology and Ergonomics.
Laboratoire Interuniversitaire de Psychologie, Personnalité, Cognition, changement Social (LIP/PC2S),
Université Grenoble 2 (France); Michel.Dubois@upmf-grenoble.fr

**Marc-Eric BOBILLIER CHAUMON, Senior Lecturer in Work Psychology and Ergonomics.
Laboratoire GREPS, (EA 4163), Institut de Psychologie – Université de Lyon. 69676 Bron, (France) Marc-eric.bobillier-chaumon@univ-lyon2.fr

***Didier Retour, Professor of Management.
IAE de Grenoble & CERAG, UMR 580, Université Grenoble 2, Tel. 04 76 82 78 67; Didier.Retour@iae-grenoble.fr

ABSTRACT

The object of this article is the development of customer banking skills as a result of using online banking and its impact on the competence of customer advisers in face-to-face customer contacts. We focus on the use of software applications by customer advisers (CA) during customer contacts. The main results show that online banking enables customers to develop a range of banking skills. In order to deliver the service required by the context, advisers select the required competences according to the level of expertise of their customers.

KEY WORDS

Service relations, Internet, pro-software, customer, customer adviser, competence.

Over the past fifteen years a wide range of technological solutions were developed within the banking sector. The rapid spread of information and communication technology (ICT) allows for a vast array of banking services to be provided to remote customers. Those services range from the simple shop window up to the distance management of financial transactions, and to the consultation of accounts and financial simulation (Toufaily and Daghfous, 2006; Acharya, Kagan, Sobol, and Kodepaka, 2006). Thus service delivery is no more confined to the interaction between the banking agent and the technological system. Though Internet banking provides obvious benefits for customer's interactivity and accessibility (Ravi, Carr and Sagar, 2006), a service relation invariably implies, at some point, a physical relation with a customer adviser in an agency (Walker and Johnson, 2005; Bendana, 2006). Moreover, as some customers develop banking competences by using online banking services, advisers need to

reconsider service delivery (Boyes and Stone, 2003) and to learn how to provide a service (or deal with a representation of the service), which is already largely pre-produced by the customer (Siaw and Yu, 2004). Our study focuses on the effects of customer learning on the (use of) Customer Adviser (CA) competence when the customer and their adviser subsequently meet in an agency. We will also consider the way in which pro-software is used by customer advisers while they physically interact with customers.

Since the concept of competence (customer and CA competence) is the primary focus of this study, a clarification of its meaning is required. Competency seems to have different meanings (Lafer, 2004 ; Linda and Winch, 2006 ; Grugulis, 2008) among research communities. In France, competence can be defined as the following triptych: knowledge, know-how (technical competence, operational competence, procedural competence, instrumental competence, cognitive competence), and interpersonal skills (behavioral competence, relational competence, etc.). Moreover, a competence is invariably situated, as it depends on a given situation and a varyingly favorable context that offer an equal degree of temporal flexibility. Thus, "competence" can be seen as the combination of knowledge, skills and behavior that improve performance; or as the state or quality of being adequately or well qualified, having the ability to perform a specific role. Customer advisers' competencies, for instance, might include systems thinking and emotional intelligence as well as skills in communication and negotiation. In order to be (or to be considered as) competent a person would need to be able to properly interpret the situation and to have a repertoire of the possible actions to undertake (in that particular situation).

I. The development of customer banking skills through online banking: implications for CA competence

The aim of section 1 is the development of Information and Communication Technologies (ICT) and banking service relations resulting in a growth of customer competence, a source of new issues for customer adviser competence and for the differentiated use of these skills during customer contacts.

1.1. The development of ICT and banking service relations

Through online banking, customers are better able to act and interact by removing the various constraints that are liable to be imposed by a third party (such as constraints of time, space or expertise), thus enabling them to act independently of an adviser but with the support of

online banking resources. The capacity of an online customer for action, information and interaction are thereby increased; the customer thus emerges as a new agent in the banking process (Mavri and Ioannou, 2006). Though many studies have shown how ICT tend to alter the socioprofessional and organizational factors of customer service advice and banking in general (Al-Taitoon and Sorensen, 2004 ; Joseph, Sekhon, Stone and Tinson, 2005), far fewer studies have taken account of their impact on customers and the effects of these impacts on the modalities of the service subsequently delivered in customer contacts based on an approach shifting from an intra-organizational to an extra-organizational perspective (Peterson and Balasubramian, 2002; Plé and Lefèbvre, 2004). The present study aims to remedy this defect.

1.2. ICT and the development of customer competence

Some customers use online banking to improve their banking knowledge and competence and to pre-produce the service they require (Bernard, 2001). Internet banking users typically compare or search for the most appropriate online services (Curry and Penman, 2004 ; Lassar, Manolis and Lassar, 2005 ; Kuisma, Laukkanen, and Hiltunen, 2007 ; Liao and Wong, 2008). The identified uses show that some customers use consultations to acquire a form of banking ‘knowledge’ or ‘know-how’ (knowledge of products and their methods of calculation, use of accounts, acquisition of data in the context of a loan, comparison, simulation) and to develop greater proactivity (Pralhad and Ramaswamy, 2000; Liao and Tow Cheung,). The result is a ‘wiser and more rigorous’ behaviour displayed by some customers (Rodie and Klein 2000). The role of pre-information and the pre-analysis of their situation is qualitatively different in the exchange situation and the modalities of service production in customer contacts used to confront and finalize decisions. Initial virtual transactions (through emailing) increase and imply new interpersonal skills for customer advisers; this is because they require a conception of a customer contact as a ‘moment’ in a temporal sequence formerly constructed by the customer autonomously. The relation is inscribed simultaneously in a real triadic relation (CA-IT-customer), though with the active participation of new virtual agent (online banking technologies and previous uses) that redefines certain conditions of exchange and negotiation. Faced with an increasingly independent and autonomous customer, professional agents thus tend to lose certain prerogatives and a degree of power. To this extent, virtual services foster more reactive and opportunistic attitudes in customers during customer contacts (Pralhad and Ramaswamy, 2000). In fact, before the development of banking ICT, the adviser and the customer operated exclusively in a distinctly asymmetrical position in access at information in

face-to-face customer contacts. The development of Internet banking services may be seen to affect the roles, responsibilities and power relations of the actors involved in the production and delivery of services. It is precisely these trends and their consequences for the use of customer adviser competence and available IT applications that will be explored throughout this study.

1.3. The development of customer competence through ICT and the implications for customer adviser competence

A customer adviser must be capable of adapting to the frequent variations in the level of customer competence and the different forms of collaboration between themselves and their customers entailed by these variations. This situation determines the conditions of face-to-face service delivery. With the development of their competence through ICT, the most well-informed customers are liable to require a different kind of service involving a shared reflection and more sustained collaboration. There are three potential areas in which a customer's range of skills tend to evolve: knowledge (the customer acquires new knowledge), know-how (the customer seeks to understand the logic of the service rather than passively acquiesce to a ready-made solution) and interpersonal skills (the customer wishes to confront her own point of view with the point of view of an expert). Faced with a better informed and more competent customer, advisers are thus required to manage heterogeneous situations and to adapt to unpredictable 'events'. Online banking only serves to reinforce this trend because it tends to increase the areas of uncertainty and instability that add to the initial difficulties raised by the relational dimension of services (du Tertre and Blandin, 2001). The management of interactions is made all the more complex by the fact that the CA and the customer have no real experience of working in common. Before any action is taken, there will necessarily be a time for adjustment, co-evaluation and consultation (a process subject to established time constraints). Every customer situation is regulated according to the various forms of competence of service pre-production that condition the type of competence effectively used during customer contacts. The dynamics of this triad¹ – CA/IT/Customer – is thus reconfigured and reconstituted at every appointment.

¹ In current English literature, the notion of a 'triad' of relations, around which much of the methodology revolves, includes customer, customer service officer, and employer. The 'triad' used in this paper includes customer service officer, customer service adviser, and information services available to both. To quote Caplow's well-known definition (1984), '*a triad is a social system comprising three elements, connected by a lasting relation*'. He also notes that '*the central characteristic of the triad is its tendency to divide in order to form a coalition of two of its elements against the third element*'

I.4. What are the kinds of customer adviser competence used in face-to-face customer contacts?

It is within the CA/IT/Customer triad that the processes of communication and decision-making pertaining to customers' questions or to the suggestions made by the customer adviser are constructed with the varying support of IT resources. The forms of competence involved in the delivery of banking advice are articulated around three kinds of relations:

- a relation of cooperation with the customer conceived as a co-producer of the service (Gadrey, 1991) ;
- a contractual relation between the adviser and the customer characterized by a common work object (which does not presuppose an identity of projects), an inequality of means (cognitive and instrumental asymmetry), a complementarity of means between actors, and an instituted relation of support (Falzon and Lapeyrière, 1998) ;
- a contextualized (situated) and distributed relation because the service relation is the result of a complex and cooperative process between several partners based on intersubjectivity, where the representation that every partner has of the other partners and of their role within the relation determines to a great extent their attitude to a given proposition (Boulin and du Tertre, 2001).

To this extent, the use of different types of CA competence depends simultaneously on: (i) the specific organizational rules and modalities of use of the ICT within their work environment; (ii) the modalities of interaction with the customer during the process of service production and the experience of the professional agent enabling her to re-position herself within the service more or less constructed by her; (iii) the modalities of appropriation of the distant technological offers by customers to (pre-)produce their own service. All these elements of the process account for the nature of the skills used by a customer adviser during customer contacts.

This study will adopt two complementary analytical perspectives. The first is to study the evolution of customer competence connected with the increasing use of online banking (study 1). The second is to examine how these new abilities can impact on the use of customer adviser skills in face-to-face customer contacts, focusing particularly on the modalities of use of pro-software by customer advisers (study 2). While the methods and results of both studies are presented separately for the sake of analytical clarity, it is important to bear their interdependences in mind.

II. Empirical studies

Two complementary empirical studies were carried out to determine the evolution of customer competence as a result of the use of ICT and their impact on the use of customer adviser skills and available IT resources.

II.1. Study 1: the effects of Internet banking resources on the development of customer competence

The issue is to determine the extent to which the acquisition of new types of competence by Internet banking users is fostered by online banking resources, thus enabling customers to construe differently their subsequent face-to-face contacts with customer advisers.

II.1.1. Methodology

a variety of methodological resources were used to define the full range of services provided by online banking, as well as their user-friendly functionality and the uses to which they are effectively put by customers. Initially, a study of the Internet banking websites of twelve French banks² helped to identify the functionalities of the websites in question (identification of the range of banking operations, products and services offered by the website) by way of determining their potential in terms of information, action and self-training. An interactive online survey (via Surveygold) was then made available for a month on the homepage of a regional (south-east) branch of the *Crédit Agricole*. Out of the 36 initial questions, we selected 17 questions that pertained directly to the kinds of use resorted to by Internet banking users. The questions dealt with customers' knowledge and use of online banking, frequency of use, consulted websites, the functionalities effectively resorted to and the use of information gathered for their banking practices. 1025 Internet banking users responded to the survey.

II.1.2. Main results

II.1.2.1. Study of the use of online banking resources by functional and ergonomic analysis

The functional purpose of online banking websites is to provide Internet banking users with the means of carrying out the near totality of their required banking operations. A study of the ergonomic quality of such websites is therefore in order. Their assessment was carried out by means of ergonomic analysis. Five experts in the field were asked to evaluate the quality of eight banking websites based on 55 criteria chosen from the different principles and norms

² La Poste, Société Générale, Banque Populaire des Alpes, BNP, Crédit du Nord, Crédit Agricole and Crédit-Mutuel Centre-Est, CCF, Caisse d'Épargne des Alpes, CIC Lyonnaise de Banque, Crédit Lyonnais, Bred.

defined in the relevant literature (Bastien, Leulier and Scapin, 1998; Nielsen, 2004). In order to facilitate their analysis and comparison³, the criteria were broken down into eight rubrics (Bastien et al., 1998). In practical terms, every expert assessed the relevance of a statement (based on the table of criteria presented in the form of a check-list) on a Likert scale ranging from 1 (strongly disagree/adequate) to 5 (strongly agree/highly satisfactory) and were asked to justify their choice. The results show that none of the banks in our sample received a mark below average (i.e. 2.5/5) for the general assessment of the interface (average mark: 3.65) or for the more specific assessments pertaining to individual rubrics of criteria. Beyond the functionalities determining specific uses, the websites were seen to provide a friendly and intuitive environment that facilitated their use.

The various means of communication associated with products (chat rooms, email, form, etc.) were seen to play a dual function: a relational function (availability and relation with customers) and a marketing function (collection of personal data). Faced with a substantial offer of products (nearly 831 products compiled across the 12 websites), technical means of segmentation (entries according to user profiles) direct online users to specifically chosen commercial offers. Methods for securing customer loyalty are devised by combining traditional banking products (stock market products, standard insurance products – respectively 45% and 12% of the overall offer) with more unusual offers (access to estate agents' websites, etc.). Finally, means of action allow for more operational uses by entrusting the responsibility of elementary transactions to Internet banking users (credit transfers, consulting accounts...). Simulation offers (funding and investments) account for 25% of the total number of offers.

Our use of ergonomic and functional analysis highlighted two important factors:

- 1) the available interfaces are high-quality resources and promote consultation, irrespective of the specific objective;
- 2) banking websites provide basic operations for managing accounts or allow for more complex banking operations (especially simulations). To this extent, the development of banking skills (knowledge and know-how) is *de facto* stimulated. We will now try to refine our analysis of the specific purposes of the uses resorted to by Internet banking users.

³ The eight ergonomic rubrics include respectively: guiding, workload, accountancy, homogeneity/coherence, adaptability, tolerance of errors, explicit control, significance of codes and denominations.

II.1.2.2. Analysis of the ends of uses by survey

There are two broad profile categories of Internet banking users: ill-informed customers and well-informed customers. The online questionnaire designed for the self-assessment of banking practices showed that 69% (n = 707) of Internet banking customers viewed themselves as 'inexperienced' (i.e. with little experience in banking) as opposed to just 31% who viewed themselves as experts. The selected sample was thus highly contrasted. 'Ill-informed' users indicate consultation rates below 10 per month. Conversely, 88% of the self-proclaimed 'well-informed' users connected more than 21 times per month. A more descriptive analysis of the various uses yields the following results.

Insert table 1

For ill-informed users, the main uses of online banking relate to a range of administrative operations (account consultations, transfers, etc.) which indicate the transfer of basic skills in the realm of know-how (i.e. the use of simple tools: consultation operations, transfers, etc.) between the bank and the customer. Banking websites are also used as databases to find information about banking products as well as general information about a particular branch (opening times, address, etc.). Nearly a third of well-informed online users (31%) make use of the same basic administrative information, though on a more frequent basis than ill-informed users. A significant proportion of well-informed users also extends and improves their banking knowledge and skills in the realms of knowledge, know-how and interpersonal skills:

- Users improve their knowledge, because by making extensive use of banking websites, well-informed users also acquire specialist knowledge, which for some provides the foundations of, or for others extends, their banking skills. 68% of well-informed users claimed that they improved their banking skills by using banking websites, as opposed to just 3% of ill-informed users. Some uses related to information research are only resorted to by well-informed users, such as information about stock market investments (37%). Frequent and relatively complex operations such as these help users to become more familiar with the banking industry and to stimulate their management of a stock portfolio or of loan request operations by comparing the range of loans on offer.

These findings were corroborated by the significant correlations observed between the 'possibility of online self-training' and :

- 1) securing legal or fiscal support (r = .85; p < .00)
- 2) obtaining simulations (r = .79; p < .000)
- 3) acquiring more information about the products on offer (r = .78; p < .00) and general

information about a bank's organization, structure and results ($r = .82$; $p < .000$).

- Users refine their know-how since well-informed users improve their use and assessment of the banking environment by interacting with a banking website. This was corroborated by the statistical analysis of a user's self-assessed level of competence and the use of specific online operations. Thus the more online users claim to be experts of *Crédit Agricole's* website, the more they request operations of account downloading ($F(1.1023) = 28.18$ $P < .00$), subscription to emailing lists ($F(1.1023) = 24.49$; $P < .01$) or links to partner websites ($F(1.1023) = 13.73$; $P < .05$).
- Finally, users improve their interpersonal skills because they are able to appropriate the information required to prepare for an appointment with a CA (53%), whether such data is obtained by consulting the information posted on banking websites or by data acquired through simulation tools (which account for 32% of the practices of well-informed users). In this case, customers can be said to make a strategic use of online banking conceived as a tool that enables the process of decision-making and negotiation for commercial purposes. One of the first uses of such websites is precisely the acquisition of information about the range of products on offer (64% of well-informed users).

II.1.3. An analysis of the role of websites in the development of customer competence.

Customers of a bank are able to increase their autonomy and independence through the information found on the website, through the operations carried out online and through the skills learnt from the range of services on offer. The use of banking websites therefore tends to foster the acquisition or consolidation of banking skills.

The capacities of an Internet banking user for action, information and interaction are consolidated as a result of online banking. The way is paved for a new kind of commercial relation founded on greater interactivity (*with the bank and with the customer adviser through the website and e-mailing*), greater reactivity (*through the information and products or offers available on different banking websites*) and greater pro-activity (*through the customer's capacity to simulate or anticipate the management of banking affairs*). By altering the operational and cognitive characteristics of some customers, the numerous contingencies provided by banking websites are therefore liable to redefine certain aspects of subsequent relations with customer advisers and to disrupt the coherence of the banking system, which was historically based on a relation of asymmetrical support for customers. The object of study 2 below is precisely to analyse the impact of the development of online customer skills on the kinds of uses to which CA skills are put.

II.2. Study 2: The effects of the development of customer skills through online banking on the kinds of uses of CA competence and the modalities of use of IT resources

The present study was carried out on the basis of a partnership with two banks (Crédit Agricole Centre Est and Caisse d'Epargne des Alpes). Its object was to study the nature of CA skills mobilised during the interaction with the customers and the modalities of use of online banking resources during customer contacts. In this context an analysis of CA-customer interactions is essential.

II.2.1. Methodology

A brief functional analysis of the Internet banking resources used by customer advisers was initially carried out to identify the various kinds of software and pro-software used by advisers during customer contacts (in back and front office). We established the range of operations which they enable, the information to which they give access, the way in which they prescribe an adviser's sequences of action and intervention in the course of the negotiation, etc. We observed the meeting to understand the sequences of interaction between the various protagonists and the nature of their exchanges. These observations formalized the nature of the interactions ('exchange of general information', 'offer of advice', 'use of calculations and simulations', etc.) and identified the range of (dyadic and triadic) interactive sequences between "CA" and/or "Customer" and/or "IS".

An audio recording registered the totality of the verbal exchanges associated with the different sequences. Out of a total of 43 initial observations shared out equally across the two banks, we used 16 situations⁴ for the purposes of the analysis, each contact lasting approximately one hour. These were highly representative of the level of customer competence ('ill-informed' vs. 'well-informed')⁵ and of the complexity of each customer case ('simple' vs. 'complex')⁶. Far from being abnormal or exceptional (breakdown, malfunction, assault, etc.), the chosen

⁴ With the following variables : 4 with an 'Ill-informed customer – Simple case'; 4 with an 'Ill-informed customer – Complex case'; 4 with a 'Well-informed Customer – Simple Case'; and 4 with a 'Well-informed customer – Complex case'. The 16 situations were observed studying 12 different advisers across 6 different branches (4 branches of one bank, two of the other)

⁵ This level was categorized on the basis of customers' own self-assessment (at the end of their appointment with the customer adviser) through a survey (6 questions, Likert scale in 5 points) relating to their self-assessed level of knowledge in terms of banking and financial products and services, their self-assessed level of frequency of use, self-training and acquisition of banking skills through banking websites. An assessment by the CA after the appointment on a scale of 5 points also helped to evaluate the level of customer competence. The customers selected for the purposes of this study were both self-categorized as having a certain level ('well-informed' vs. 'ill-informed') and assessed congruently by the CA.

⁶ The assessment of the complexity of these situations was carried out thanks to the customer advisers who distinguished eight simple situations (customer information about fixed tariffs, visa cards, various marketing promotions, etc.) and eight complex situations involving significant possibilities for negotiation and persuasion (property investments, advice about stock market investments, etc.) and use of sophisticated knowledge

situations were routine cases representative of the vast majority of customer contacts on the basis of the two selected variables. A variety of different quantitative analyses were carried out (extent and number of exchanges, nature of linguistic content in the exchange) on a corpus comprising twelve hours of discursive material. The semantic analysis of verbal data was carried out statistically by using Alceste software. The analysis by hierarchical classification consisted in identifying the elements which made sense within the structure of a given dialogue. Within this verbal corpus only the material provided by the CA was used since the primary object of the analysis was the range of CA skills used during customer contacts.

II.2.2. Main results

II.2.2.1. A functional analysis of the IT resources used in the two banks

The range of IS resources used by the CA can be divided into three broad types:

- information and communication tools that provide general, professional and practical information updated on a daily basis;
- information supports that provide a source of general and synthetic knowledge about every customer and consultable at any time;
- banking software facilitating calculations and simulations whether the customer is present or not.

II.2.2.2. A quantitative analysis of the interactions observed in customer contacts

Out of the total number of interactions effectively observed (n = 3102), 70% of the exchanges were carried out in a dyadic form between the customer adviser and the customer. The IS was used for 30% of the interactions, including 15.5% that involved the simultaneous participation of the three actors (triadic modality). When the IS was used in the interaction, it was almost exclusively on the basis of the 'CA → IS' sequence (28.5% of interactions). The transmission of information to inform the customer-case and to assist the preparation of a case was significant (71%). The sequences of explanation and advice, which strongly personalised the customer-case (19%), and those which contributed to the effective realization of potential situations (10%: calculations and simulations), were significantly more limited. Note that there was no significant difference according to the type of bank in question.

Insert table 2

A customer's competence was observed to have an impact on the CA's level of linguistic activity (see table 3) (average number of words $F(1,15) = 5.35$; $p < .001$; average number of

exchanges: $F(1.15) = 4.48$; $p < .001$). The better informed the customer, the higher the average number of words per interaction and the number of times the adviser intervenes (respectively ‘ill-informed’ vs. ‘well-informed’: words = 2364.5 vs. 4184; exchanges = 128 vs. 269). By contrast, the nature of the specific customer-case in question (‘simple’ vs. ‘complex’) had no significant impact on linguistic production in terms of the number of words (W) (simple case vs. complex case: $W = 3157.5$ vs. 3391) and the number of exchanges (respectively: $W = 186$ vs. 211). No effect of interaction was observed between these two factors.

Insert table 3

The results outlined above may be accounted for by the position adopted by the CA *vis-à-vis* their customer : faced with more assertive customer expertise, the customer adviser tends to display more interactive linguistic behaviour and to use regulations that are more suited to the kind of advice and explanations proffered to this type of customer (who is typically equipped with a file prepared by consulting different websites). This kind of regulation is also consolidated by the differences of linguistic behaviour displayed by customers. An ill-informed customer tends to intervene only very rarely in customer contacts (number of words used by an ‘ill-informed’ customer vs. a ‘well-informed’ customer: $W = 765.5$ vs. 3011, ($F(1.15) = 5.67$; $p < .001$); number of exchanges: $W = 98.5$ vs. 179), ($F(1.15) = 6.03$; $p < .001$)). An ‘ill-informed’ customer merely provides information to the customer adviser when the latter requests it. The adviser manages the relation far more autonomously. By contrast, the ‘well-informed’ customer is far more incisive irrespective of the specific case. Her intervention requires a more sustained and interactive regulation on the part of the customer adviser, and calls for far more sophisticated cognitive activity. The dynamic capacity of the customer adviser to adapt to the specific characteristics of every customer shows variations in levels of performance, and indicates a concern to provide a coherent response to every kind of situation and a generally satisfactory and acceptable response within the time limits of the appointment for the customer, the bank and the customer adviser.

Insert table 4

We wanted to establish if these factors determined the various uses to which IT resources are put by customer advisers by focusing on the number of words and exchanges generated by the use of the IS within the ‘CA → Customer’ interaction, which indicates a shared use of the knowledge available on the IS and a collective treatment of information.

Insert table 5

Once again the results show the impact of a customer's competence on the interactive use of the IS (number of words: $W = 90$ vs. 512.5 ; $F(1.15) = 8.56$; $p < .0001$; number of exchanges: $W = 4.5$ vs. 26.5 ; $F(1.15) = 12.87$; $p < .0001$). Neither the nature of the specific customer-case (number of words: $W = 315.5$ vs. 334 ; $F(1.15) = 0.97$; number of exchanges: $W = 13$ vs. 18 ; $F(1.15) = 0.62$; ns) nor the interaction between these two factors were observed to have any impact. The nature of the customer case certainly determined a type of use of the IS in the back office but had no impact on its use during customer contacts. Unless the specific characteristics of the ('ill-informed') customer compel her to, the adviser thus minimizes her interventions on the IS and manages the customer contact without extending beyond what she deems to be acceptable and what the kind of customer with whom she is dealing deems sufficient. A qualitative analysis of discourse helps to corroborate these findings.

II.2.2.3. *The qualitative analysis of interactions in customer contacts*

A comparative discourse analysis with Alceste software of the four kinds of customer contact was applied to 1153 classified Elementary Linguistic Units (ELU)⁷ (69% of the total corpus). The ELU were divided into three categories differentiating the two kinds of clientèle ('ill-informed' and 'well-informed'), with the third category referring to lexicons of product description ('simple' vs. 'complex'). Graph 1 and table 6 present a final synthetic projection of the various linguistic interactions based on the combination of the two factors.

Insert figure 1

Insert table 6

Category 1 (434 ELU, i.e. 37.6% of the total corpus) comprises the linguistic expressions used by the adviser in the presence of a 'well-informed' customer. The observed discourses primarily indicate a persistent tendency to compare different solutions for the specific customer case in question and show a concern on the adviser's part to satisfy fully the customer's requirements (i.e. a concern to maximize the service provided): "*We'll need to make some adjustments. We need to use a monthly simulation, that would probably be, um, closer to reality and to what you're looking for*". The structure of the appointment is generally

⁷ The ELU (Elementary Linguistic Units) represent significantly coherent linguistic exchanges. The categories represent a collection of the ELU established on the basis of the dominant vocabulary used as a result of semantic oppositions and synonymies.

designed through comparative trials between different scenarios with the scenario used in the back office serving as a working scenario. The adviser structures the interaction around a wide range of explanations and advice by integrating different criteria into the simulation of the customer case (commission and management charges, payment charges, length of time, types of rates and payments, etc.). To this extent, the IS becomes an indispensable tool in the construction of dialogue: *“If I transformed, um, 150,000 Euros over a period of fifteen years, I’ll proceed like this, 150,000 Euros over fifteen years, yes, that’ll be sixteen thousand and a bit. So, um, yes, that’s it. Um, yes, in fact, you’ll be at fourteen thousand if I take that away. OK? OK. Based on that, let’s take a look at it together”*. The IS provides various simulations in real time and largely contributes to structuring and fostering exchange. It is both the technical level of the discourses and the linguistic formulae used to create a sustained exchange and to guarantee a diversified offer of different categories of solutions that characterise this category. The level of cognitive activity displayed by the customer adviser is generally high.

The interactions with an ‘ill-informed’ customers (category 2; 441 ELU, i.e. 38.25%) are differentiated by the context and modalities of the exchange. The relation is developed on the basis of a far smaller number of solutions though technically they are just as efficient as the examples of category 1. The customer adviser only provides one or two solutions, and tends to specify the clauses irrespective of the degree of simplicity or complexity of the product. The lexicon of the discourse is more informative: *“You’ve also got variables rates, in other words you have a given rate and every year the rate changes and can be altered naturally”*. The explanations and the advice are provided in a more standard form. The adviser does not seek to refine the service as in category 1. The IS is generally used without sharing the information displayed on the monitor screen with the customer.

The third category (278 ELU, i.e. 24.1%) refers primarily to the characteristics of the products and of banking operations. The main focus of this discourse is the description and explanation of how the products and banking operations function: *“For example, if you buy something today, the cost will be debited from your account in, um, early July. With the visa premier card, it’s automatically deferred”*.

II.3. A study of customer competence in the use of the IS and CA competence

The specific nature of the customer-case in question (simple vs. complex) was not observed to have any impact on the standard of interpersonal skills used during customer contacts. The significance and nature of the sequences of interaction are primarily determined by the level

of customer competence during the customer contact. The customer adviser adapts her own level of competence to the demands of every social situation and adjusts the dialogue in tune with the level of competence of her interlocutor.

The linguistic interactions indicate both quantitatively and qualitatively the significance of social skills (relational competence), which consists in knowing how to decipher the request and how to articulate appropriate replies and explain complex notions pedagogically by way of reaching a satisfactory compromise. The purpose of linguistic interaction is to encourage customer cooperation in a dialogue elaborated collectively. The cues displayed by the customer during the appointment help to categorize the assumed level of customer competence. The customer model is rapidly elaborated at the beginning of the appointment. The adviser then seeks to corroborate this assumption throughout the appointment by way of making appropriate adjustments. The construction of the customer model implies that the customer is compared with a range of pre-established categories of 'well-informed' or 'ill-informed' customers recalled from experience. The model helps to foster more efficient dialogue by helping to adapt the terminology and relative complexity of the banking notions used and by resorting to standard actions, procedures and forms of communication.

The IS helps to structure exchanges, saves time and sequences the relation. We observed a strategic use of the IS by the CA as an ally and support in customer contacts helping to validate decisions and support or legitimate suggestions or remarks. From this perspective, the IS is an opportunistic aid for the elaboration of a decision; it is therefore appealed to according to the circumstances of the negotiation, i.e. the questions and remarks of the customer and the adviser's objectives.

III. General discussion

The conclusions drawn from the two studies will be discussed from two perspectives: according to the types of current use within interactions, what are the main implications for a) adviser skills and b) IT banking applications?

III.1. Main implications for CA competence

Our studies do not suggest that the CA make extensive use of the available pro-software and using significant cognitive resources to optimize the provided service. Our conclusions are closer, in many respects, to those highlighted by studies that focus on 'useful cognitive cost' (O'Hara and Payne, 1998, 1999) and 'complacency' (Amalberti, 2001). Effectively manage

customer relations boils down to ‘merely’ knowing how to process information according to the perceived characteristics of customer competence. The use of online resources allows customers to acquire skills and to gather relevant information. Better informed customers, expect a highly personalised form of service delivery (Rodie and Kleine, 2000). Two customers with similar customer will be more or less interested in the same information. For the customer adviser, this is where the primary challenge of effective service delivery lies, as each one of those two customers will actively take part in the process of decision-making. Advisers are increasingly involved in diverse and highly variable forms of interaction with their customers, which require a strong adaptation capacity in the process of service co-production between the adviser, the customer and the available IT resources (Grugulis and Vincent, 2010). The customer adviser will need to manage areas of uncertainty indicated by the customer (Pralhad and Ramaswamy, 2000) and to agree to take a position of weaker informational asymmetry with some customers in order to develop effective support for the project designed conjointly with the customer. The challenge for the CA is to keep integrating and shuttling between different types of negotiation with a varied customer.

In practice, the types of competence used by customer advisers relate primarily to the use, according to circumstances, of modalities of regulation and a permanent adaptation to CA and customer representations of the situation and the appropriate responses. The general competence of the CA – his capital of knowledge, know-how and interpersonal skills – primarily consists in articulating her knowledge of the technical outcome of her own operations and the management of the exchanges that occur during the customer contact. The common purpose is not entirely determined *a priori*. Rather, it is elaborated and transformed in the course of the interaction through subtle and complex operations as well as visible and audible behaviour, which explains why actions are devised conjointly and are permanently readjusted in accordance with the specific demands of the context (Suchman, 1994). In this case it is a form of ‘combined knowledge’ which is appealed to (Hatchuel and Weil, 1999).

There is not merely one solution but rather many potential solutions, some more satisfactory than others according to the criteria selected at any given time. All solutions are geared towards reaching a satisfactory compromise. In order to encourage the acquisition of new types of competence, a bank will need to consider not merely the development of CA competence, but also the types of competence developed by customers who cannot be fitted into traditional customer categories (Zeithaml and Bitner, 2003). There are reasons to expect that customer skills will keep improving; an increasing number of people are undergoing

initial or in-house professional training; banking websites are easier to access. Customer advisers will therefore be faced with unique situations presented by every different customer, which fully justifies the definition of competence outlined in the opening pages of this study: ‘*a combination of resources that are available to an individual, in a given situation, enabling them to...*’. Such resources include banking applications, which are also likely to undergo significant changes.

III.2. Main implications for banking IS

The current conception of banking applications still heavily relies on problem-solving scenarios or paradigm (Lenca, 1997) to carry out a range of calculations and simulations of requests that may be highly complex .

The current conception focuses largely on a relation produced to the detriment of customer relations and tending to neglect the global dynamics of interactions (Negro, 2000). However, customers are likely to present their requests in a wide variety of ways: either because they have not prepared their request in advance and that it is therefore vague or imprecise; or because they have prepared it very carefully but in a way that differs significantly from one customer to another or that may not be suited to the logic of IT resources or the CA. The increasing need for personalised service relations leads to interactions where it is no longer enough to ‘act *upon* the other’ with a highly structuring tool, but also to ‘act *with* the other’. This perspective has several implications for our conception of banking applications. It requires a reflection on the notion of a space of shared work (Tatar, Foster, Bobrow, 1991), which raises two main questions concerned with improving the current situation:

- First of all, how to support real time information sharing in order to foster collaboration. Applications should be conceived with the purpose of encouraging, as far as possible, the elaboration and or retrieving of data used for decision-making and that is visible both to the adviser and to the customer in order to elaborate a strategy for the personalisation of the request rapidly and efficiently.
- Secondly, there seem to be a need of IT flexibility in the registration of customer requests (multiple entries). This conception could be based on the typology of reasoning and modalities of approach of the main customer requests by customers themselves. They should be capable of being carried out in real time, and even to integrate data pre-registered by the customer. Because they are structuring and adequately representative of customer logics, such entries would help to foster a coordinated and adequately structured form of communication to facilitate the achievement of a common goal.

Conclusion

Our study shows how the use of IT banking by customers affects their interactions with CA. As customers are gradually becoming skilful users of banking services, customer advisers must elaborate additional levels of monitoring during their interactions with clients and to develop new performance to satisfy high quality service. This research argues that 1) the use of websites helps customers to develop their banking skills; 2) customer advisers take account of customer banking skills to manage face-to-face customer contacts; 3) the types of competence used by customer advisers vary according to the presumed skills of their customers in order to provide every customer with the service that they expect; 4) in this context, the CA's use of specific types of competence are less determined by the complexity of customers' requests ; 5) the use of the IT banking applications that are available to the CA vary according to the specific types of competence displayed by every customer; 6) the design of banking pro-software should integrate more functionalities that both, support and enhance, the collaboration between advisers and their customers.

The implications for CA skills are:

- Firstly, the increase of technical and social skills (communication, team work , negotiation, ...) in service relation with customer (diagnosis, problem solving, ability in learning and use IT, ...)
- Secondly, employability skills must be developed, defined as "not only to gain employment but also to progress within an enterprise so as to achieve once potential and contribute succesfully to entreprise strategic direction“ (Hampson and Junor, 2011).

Bibliography

- Acharya, R.N., Kagan, A., Sobol, M.G. and Kodepaka, V. (2006), Competition and adoption of internet technologies by Texas community banks, *E-Service Journal*, Vol. 4, 3, 61-76.
- Al-Taitoon, A. & Sorensen, C. (2004), Supporting mobile professionals in global banking: the role of global ICT-support call-centres. *Proceedings of the 37th Annual Hawaii International Conference on System Sciences*. DOI : 10.1109/HICSS.2004.1265086.
- Amalberti, R. (2001), La maîtrise des situations dynamiques, *Psychologie Française*, 46, 2, 107-118.
- Bastien, J.M.C., Leulier, M. & Scapin, D.L. (1998), L'ergonomie des sites Web in *Créer et maintenir un service Web*, Paris, ADBS Edition, p. 111-174.
- Bendana, M. (2006), Banque à distance et réseaux d'agences bancaires: usage et évolution de la mobilité des clients, *Systèmes d'information et management*, 11, 2, 81-105.
- Bernard, E. (2001), *Une causalité nécessaire entre e-banking et exclusion, économique?*. URL <http://www.globenet.org/accessit/bibliotheque/dossiers/e-banking.html>.
- Boulin, J.-Y. & Tertre du, C. (2001), *L'impact de la réduction-aménagement du temps de*

- travail sur les usages du temps*, Rapport de recherche pour le Secrétariat au tourisme et pour le Commissariat Général du Plan, Document IRIS, Paris.
- Boyes, G. & Stone, M. (2003), E-business opportunities in financial services. *Journal of Financial Services Marketing*, 8, 2, 176-189.
- Caplow, T. (1984), *Deux contre un: les coalitions dans les triades*, Paris: ESF/EME.
- Curry, A. & Penman, S. (2004), The relative importance of technology in enhancing customer relationships in banking – a Scottish perspective, *Managing Service Quality*, 14, 4, 331 – 341. doi: 10.1108/09604520410546860.
- Du Tertre, C. & Blandin, O. (2001), *Performance des activités de service : le cas de La Poste en zone urbaine sensible*, Collection n°9 de la “Mission Recherche de La Poste”, Paris.
- Falzon, P. & Lapeyrière, S. (1998), L’usager et l’opérateur: ergonomie et relations de service, *Le Travail Humain*, 61, 1, 69-90.
- Gadrey, J. (1991), Le service n’est pas un produit: quelques implications pour l’analyse économique et pour la gestion’. In Proceedings *A quoi servent les usagers? La modernisation du secteur public et la relation de service*, Sénat, Paris, 16-18 janvier.
- Gerbaix, S. (2000), L’accès direct au IT par le client final via les média électroniques : quelles implications. In Proceedings *l’Association Information et Management*, Montpellier. URL www.aim2000.univ-montp2.fr/en/schedule.htm.
- Grugulis, I. & Vincent, S. (2010), Customer service and the changing nature of work: social and technical skills in conflict. In Proceedings *A Critical Turn on HRD for the Third Critical Management Studies Conference*.
- Grugulis, I. (2008), *Skills, Training and Human Resource Management: A Critical Text*. UK: Macmillan, Palgrave.
- Hampson, I. & Junor, A. (2011), Employability and the Substance of Soft Skills. In *International Labour Process Conference 5-7 April 2011*. URL <http://www.ilpc.org.uk/Default.aspx?tabid=3693&absid=6662>.
- Joseph, J., Sekhon, Y., Stone, G., & Tinson, J. (2005), An exploratory study on the use of banking technology in the UK: A ranking of importance of selected technology on consumer perception of service delivery performance. *International Journal of Bank Marketing*, 23, 5, 397-413. doi: 10.1108/02652320510612474.
- Kuisma, T., Laukkanen, T. & Hiltunen, M. (2007), Mapping the reasons for resistance to Internet banking: A means-end approach. *International Journal of Information Management*. 27, 2 75-85. doi: 10.1016/j.ijinfomgt.2006.08.006.
- Lafer, G. (2004), What is skill? Training for Discipline in the Low -Wage Labour Market. In C. Warhurst, I. Grugulis & E. Keep (eds) *The Skills That Matter*, London: Palgrave,
- Lassar, W.L., Manolis, C. & Lassar, C.S. (2005), The relationship between consumer innovativeness, personal characteristics, and online banking adoption, *International Journal of Bank Marketing*, 23, 2, 176-199.
- Lenca P. (1997), Acquisition automatique et analyse de processus de décision. Application au domaine bancaire, PHD Thesis, Université de Rennes.
- Liao, Z. & Tow Cheung, M. (2002), Internet-based e-banking and consumer attitudes: an empirical study. *Information & Management*, 39, 4, 283-295.
- Linda, C. & Winch, C. (2006), A European Skills Framework? – but what are skills? Anglo-Saxon versus German concepts. *Journal of Education and Work*, 19, 3, 255-269.
- Mavri, M. & Ioannou, G. (2006), Consumer’s perspectives on online banking services. *International Journal of Consumer Studies*, 30, 6, 552-560.
- Negro, Y. (2000), Les compétences commerciales à l’épreuve de l’appropriation des technologies modernes de l’information et de la communication: le cas de la distribution en milieu bancaire, *Revue des Sciences de Gestion*. n°190/191, 59-72.

- Dubois, M., **Bobillier Chaumn**, M.E. & Retour, D. (2011). [The impact of development of customer online banking skills on customer adviser skills](#). *New Technology, Work and Employment*, 26(2), 156-173.
- Nielsen, J. (2004), *Concevoir des sites Web. L'art de la simplicité*, Paris, Pearson Education.
- O'Hara, K. P. & Payne, S. J. (1999), Planning and the user interface: The effects of lockout time and error recovery cost, *International Journal of Human-Computer Studies*, 50, 1, 41-59.
- Peterson, R.A. & Balasubramian, S. (2002), Retailing in the 21st century: reflections and prologue to research, *Journal of Retailing*, 78, 9-16.
- Plé, L. & Lefebvre, I. (2004), L'impact du client sur la coordination d'un réseau de distribution multicanal: le cas de la banque de détail'. In Proceedings of Association Internationale de Management Stratégique (AIMS). URL <http://www.cret-log.com/liste-publications.html>.
- Prahalad, C.K. & Ramaswamy, V. (2000), Co-opting Customer Competence, *Harvard Business Review*, 78 (January-February), 79-87.
- Ravi, V., Carr, M. & Sagar, N.V. (2006), Profiling of internet banking users in India using intelligent technique, *Journal of Services Research*, 6, 2, 61-73.
- Rodie, A.R. & Kleine, S.S. (2000), Customer Participation in Services Production and Delivery. In T. Swartz, & D. Iacobucci, (eds) *Handbook of Services Marketing and Management*, 111-125, Sage Publications, Thousand Oaks.
- Siaw, I. & Yu, A. (2004), An analysis of the impact of the internet on competition in the banking industry, using Porter's five forces model, *International Journal of Management*, 21, 4, 514-523.
- Suchman, L. (1994), Working relations of technology production and use', *Computer Supported Cooperative Work*, 2, 1/2, 21-39.
- Tatar D., Foster G. & Bobrow, D. (1991), Design for conversation: lessons from Cognitor, *International Journal of Man-machine Studies*, 34, 185-209.
- Toufaily, E. & Daghfous, N. (2006), *L'impact de l'adoption du E-Banking sur la performance des banques: cas du marché libanais*. Cahier de recherche 03-2006, URL <http://www.esq.uqam.ca/recherche/document/>
- Walker, R.H. & Johnson L.W. (2005), Towards understanding attitudes of consumers who use internet banking services, *Journal of Financial Services Marketing*, 10, 1, 84-94.
- Zeithaml, V.A. & Bitner, M.J. (2003), *Services Marketing, integrating customer focus across the firm*, Boston, Mc Graw Hill,.

Figures and tables

Types of use	Frequency of use (n = 1025 online users)		Ill-informed customers (n = 707)		Well-informed customers (n = 318)		X ² ddl = 1
Account management							
- Consulting bank account	1004	98%	686	97%	318	100%	3,24
- Consulting current bank card balance	769	75%	451	64%	318	100%	153,47
- Transfers	666	65%	348	49%	318	100%	248,51
- Previous transactions	410	40%	194	27%	216	68%	149,79
- Practical information	369	36%	204	29%	165	52%	50,50
- Basic information about products and services	359	35%	156	22%	203	64%	168,17
- Printing out bank account details.	266	26%	145	21%	121	38%	35,12
Development of banking expertise							
- Development of banking skills (searching for investment information)	237	23%	21	3%	216	68%	520,60
- Applying for banking services	168	15%	0	0%	168	53%	446,72
- Stock market operations	118	12%	0	0%	118	37%	296,47
- Simulations	102	10%	0	0%	102	32%	251,83

N.B.: All of the observed differences are significant with the khi2 test (p < .000) except account consultations.

Table 1: The different kinds of expertise of Internet banking users

Modalities of interaction	Total number of interactive sequences	Simple transmission of information	Explanations and advice	Calculation and simulation
Adviser → Customer	1295 (42 %)	841	454	-
Customer → Adviser	855 (28 %)	777	78	-
Adviser → IS	459 (14.5 %)	258	-	201
Adviser → IS → Customer	444 (14 %)	264	71	109
Customer → IS → Adviser	49 (1.5 %)	49	-	-
Total	3102	2189 (71 %)	603 (19 %)	310 (10 %)

Table 2: Types of interaction in customer relations (n = 16 observations)

		Simple customer case		Complex customer case	
		Adviser →Customer	Customer →Adviser	Adviser →Customer	Customer →Adviser
‘Ill-informed’ customer	<i>Average number of words</i>	2413	626	2316	905
	<i>SD</i>	(236)	(112)	(289)	(285)
	<i>Number of exchanges</i>	125	93	131	104
	<i>SD</i>	(18)	(56)	(28)	(64)
‘Well- informed’ customer	<i>Average number of words</i>	3902	2788	4466	3234
	<i>SD</i>	(345)	(684)	(413)	(287)
	<i>Number of exchanges</i>	247	155	291	203
	<i>SD</i>	(26)	(22)	(19)	(29)

Table 3: Average number of words used in customer contacts according to the type of customer case and the level of customer competence

	Simple customer case (1036 sequences of interaction)			Complex customer case (1166 sequences of interaction)			Total
	<i>Simple transmission of information</i>	<i>Explana- tion and/or advice</i>	<i>Calcula- tion and simulation</i>	<i>Simple transmission of information</i>	<i>Explana- tion and /or advice</i>	<i>Calculation and simulation</i>	
Ill-informed customer	642	55	7	732	63	24	1523
Well-informed customer	548	218	125	267	267	154	1579
	1190 (38%)	273 (9%)	132 (4%)	999 (32%)	330 (11%)	178 (6%)	3102

Table 4: Types of interaction used by customer advisers in customer contacts according to the nature of the customer case and the level of customer competence (n = 16 observations)

		Simple customer case (CA → IS → C triad)	Complex customer case (CA → IS → C)
		‘Ill-informed’ customer	<i>Number of words</i>
	<i>Number of exchanges</i>	5	4
‘Well- informed’ customer	<i>Number of words</i>	443	582
	<i>Number of exchanges</i>	21	32

Table 5: Average number of words and exchanges in the interactive use of the IS in customer contacts according to the type of customer case and the level of customer competence (n = 16 observations)

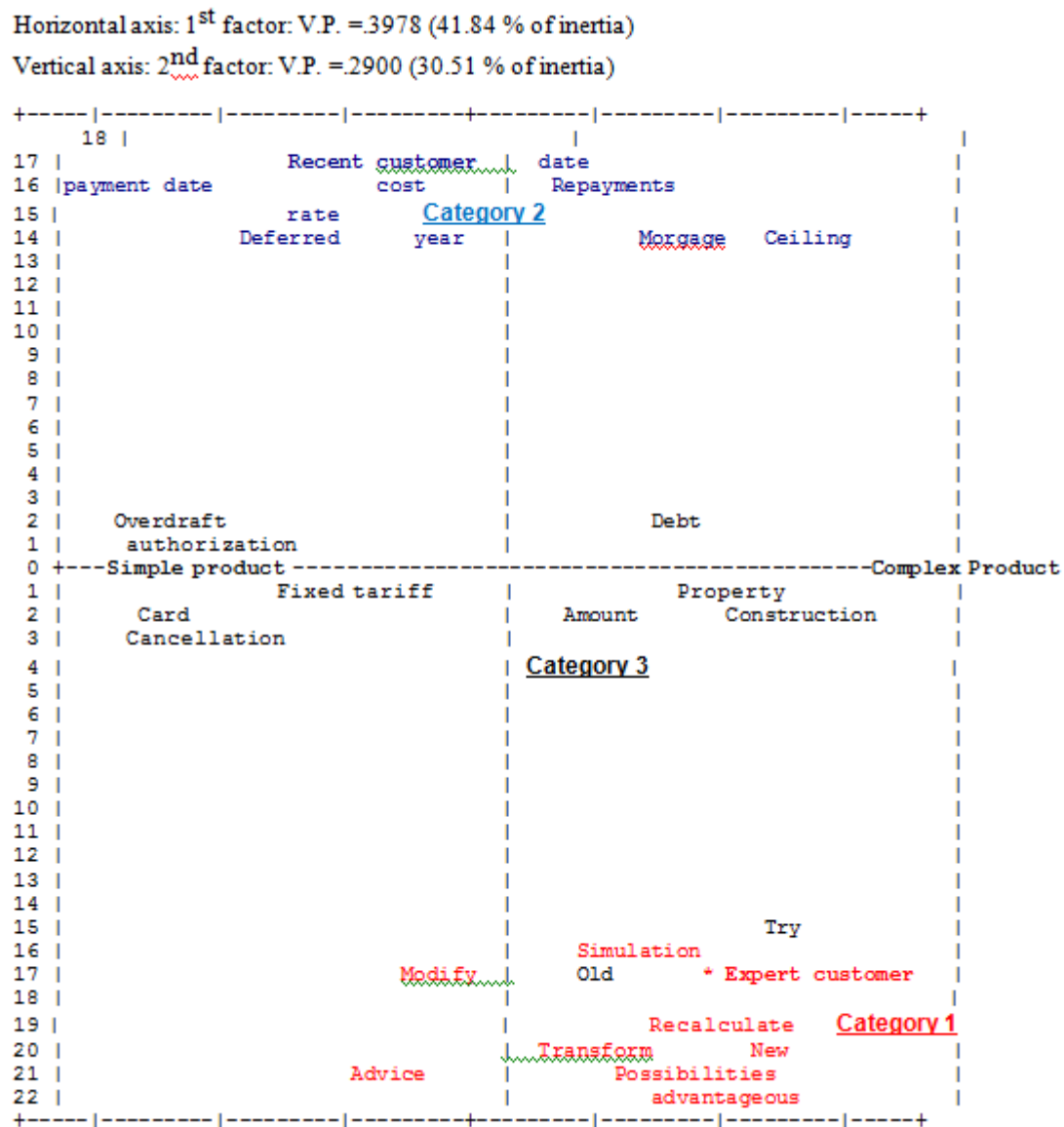


Figure 1: The comparative analysis of the terms used by personal advisers according to the types of clientèle and product

Main terms (category 1)	%	Chi2	Main terms (category 2)	%	Chi2	Main terms (category 3)	%	Chi2
Try	62.5	41.84	Payment date	78.57	18.99	Amount	66.67	10.79
Simulation	66.67	33.55	Rate	76.92	16.13	Construction	75.00	14.68
Possibilities	83.33	39.69	Repayments	75.00	19.84	Fixed tariff	62.49	13.06
Modify	80.00	16.69	Mortgage	90.91	16.61	Card	95.83	19.53
Advice	66.67	18.50	Cost	83.33	14.22	Real Estate	75.00	14.08
Recalculate	55.56	21.49	Deferred	61.54	11.84	Debt	60.51	10.55
Transform	57.14	17.31						

Table 6: Representative terms of categories 1, 2 and 3