

**Educational Mobile Coaching:  
Exploring Adoption Patterns and Barriers**

**Dr. Silvia Cacho-Elizondo**

Associate Marketing Professor

s.cacho@ipade.mx

IPADE Business School  
Floresta #20;  
Col. Clavería; Del. Azcapotzalco;  
0280 Mexico City

**Dr. Niousha Shahidi (\*)**

Enseignant-chercheur

[nshahidi@edcparis.edu](mailto:nshahidi@edcparis.edu)

EDC Paris Business School  
70, galerie des Damiers  
Paris La Défense 1  
92415 Courbevoie

**Dr. Vesselina Tossan**

Maître de conférences

[vesselina.tossan@cnam.fr](mailto:vesselina.tossan@cnam.fr)

Conservatoire National des Arts et Métiers  
3 rue Conté  
75003 Paris

[vesselina.tossan@edcparis.edu](mailto:vesselina.tossan@edcparis.edu)

Enseignant-chercheur associé  
EDC Paris Business School

## Abstract

Development of mobile apps has increased significantly in the last years. Information-Oriented Mobile Applications (IOMAs) are defined as software programs that offer users timely, personalized, and/or localized information anytime, anywhere on mobile devices (Chen et al., 2012).

Adoption of these mobile apps is forecasted to grow significantly as mobile providers open up their platforms to third-party developed applications (Malhotra & Segars, 2005; Chen et al., 2012). Apps for health & fitness monitoring as well as educational coaching applications have already emerged, targeting mainly young tech-savvy consumers around the world. One such app is Google Now, which among other things reminds appointments and helps users get to them faster, and can be accessed by those already using free services like Gmail. Apple has its voice assistant Siri, who alerts you when you need to leave home to avoid missing your train, and automatically inserts appointments into your agenda after scanning your SMS and e-mails. Microsoft has a similar application called Cortana that even tells jokes. However, there are far fewer apps available focusing on educational coaching or mentoring.

Success in higher education is often a prerequisite for access to the job market. In France alone, 2 million people earn bachelors' and advanced degrees every year. However, high-degree studies and executive education can be challenging and often require personal guidance to take full advantage of these educational programs. Therefore, students can benefit from being coached by professors and pedagogical directors, and this coaching may be an asset in achieving academic success and in reinforcing ties with and perceptions of the school and its value proposition.

This article explores antecedents that explain the intention to adopt an online coaching app and analyze differences between different types of higher education students and programs. To that end, we have imagined a coaching service, in an App format, designed to guide/encourage students during their studies. Our final aim is to validate on such an app a new model of planned behavior by capitalizing on the TAM model adapted by (Hong & Tam, 2006) as well as the goal-directed behavioral theory (Perugini & Bagozzi, 2001). However, for this paper we have decided to focus only on the TAM model.

The methodology includes a short qualitative study to understand how students react to this type of app, as well as an online survey (launched in March 2015). The scales we chose have been tested in previous studies. The convenience sample is composed of students (Bachelor, Master/MBA and Executive education) from two schools in Paris: EDC Paris Business School and the CNAM. The SEM technique will be used to test the proposed model's causal structure.

The purpose of this study is to assess acceptance and potential barriers to adopting an educational mobile coaching app. We expect differences in adoption patterns according to age, gender, perceived usefulness, perceived enjoyment, and type of program.

**Key words:** e-Coaching, TAM, Mobile Coaching Services, Apps, Education.

**Introduction**

Beginning with the introduction of Wireless Application Protocol (WAP) in Europe and iMode in Japan at the end of the 20<sup>th</sup> century, and the release of the BlackBerry smartphone in the US in 2002, development of mobile apps has significantly increased (Chen *et al*, 2012). Recent apps permit you to trade stocks, get paperless store coupons, get reminders for “to do lists”, and (with the help of GPS) get the arrival time of the next bus you are waiting.

Information-Oriented Mobile Applications (IOMAs) are defined as software programs that offer users timely, personalized, and/or localized information anytime, anywhere on mobile devices (Chen, 2012). Consumers’ adoption of these mobile apps is forecasted to grow significantly as mobile providers open up their platforms to third-party developed applications (Malhaoira&Segards, 2005; Chen, 2012). IOMAs require the use of a smartphone that is connected to the mobile Internet or local area wireless (Wifi).

A large body of research on IS acceptance exists (Davis, 1989; Davis *et al*, 1989; Venkatesh&Davis 2000, Venkatesh *et al* 2003). Services are provided in an increasingly large proportion of post-industrialized economies and a lot of these services are based on information services. Yet, little is understood about how services are adopted by consumers (Reinders *et al*. 2008, Claudy *et al*. 2015). This study uses TAM (Davis, 1989) to examine the consumer acceptance of a particular Technology Based Self Credence Service, a coaching app for students to help them succeed in their studying.

The purpose of this paper is to explore and understand the adoption processes of a particular service, online coaching for students. Success in higher education is important in order to get a good first job; in France alone, 2 million people get a superior degree every year. Being an undergraduate or graduate student participating in a continuing education program may be quite challenging because of stiff competition (Davidenkoff, 2014). Therefore, being coached by professors and/or pedagogical directors is quite necessary, and with the development of TBSS, we can see that a technological coaching system designed especially for students may be of interest.

Understanding the consumer acceptance of TBSS for credence services is especially important in social marketing, which aims to encourage the acceptance, adoption and maintenance of social behaviors to achieve social goals (Shuster *et al* 2013, Peattie & Peattie 2009). For instance influencing students to adopt a coaching app is central to achieving improved welfare for this target audience. Our study contributes to the social marketing literature by building on existing knowledge of consumer decision making in social contexts.

## Context and Theoretical Frameworks

### The French Higher Education Ecosystem

In France, Higher Education awards around 4,596 official degrees per year dispatched in various universities, almost 2 million people get one of these degrees every year. Some degrees take 3 to 5 years to be delivered, 3 years for a bachelor degree, 5 years for an after –baccalauréat engineering or business school degree (Davidenkoff, 2014, p. 92). Graduates have a greater chance of getting a job than non graduates. 3,509,000 people are unemployed as of March 2015 and this figure has risen. Therefore, success in higher education is critical for many young people. However, understanding France's Higher Education system can be complicated. The main actors of this Educational System are:

**-The University:** University is very cheap and admission is not selective, but you must have your *baccalauréat*, the first superior education exam that students pass at the end of their high school education. Now, more than 70% of a graduating class gets the *baccalauréat* compared to only a third in the mid-80. This implies that there is increased competition to get the diploma that could give the best access to the employment market (Davidenkoff, 2014, p. 93).

**-The selective 2-Year Post Baccalauréat Channels:** Here students are selected according to their grades over the last three years of secondary education (*Institut Universitaire de Technologie, Brevet de Technicien Supérieur*). Students may start to work after these diplomas but the best and most motivated join a Professional Bachelor degree for one year, and afterwards they can be accepted to a Master's degree in a University or a *Grande École*.

**-The Grandes Écoles:** These schools focus mostly on engineering or in business and are split in: a) *Grandes Ecoles* that are preceded by 2 years of preparatory class and a contest and b) *Grandes Ecoles* with an admission process through a contest just after the *baccalauréat*. (You need to either delete this or explain it further. What are the contests? How are they relevant? There are 80,400 students per year in preparatory classes where the State spends more for each of them than for the others students. The CEOs from the most prestigious French firms come from the best *Grand Ecoles* and in three of these schools students are even paid by the Government during their studies and are considered as civil servants. In the best business schools fees are high by French standards for higher education – around 13,000 euros per year at HEC. The public preparatory classes are free and admission is very selective. Private superior education accounts for 80% of the increase in the number of students over the last ten years (Davidenkoff, 2014, p.29).

**-The Apprenticeship or Professional Training Contracts:** Herein, learning is financed by companies, and trainees spend part of their time in class and part working for a company – they are even paid a small salary by the company. This formula is not as developed in France as it is in Germany for instance. In 2012, there were 419,000 apprentices and 186,000 professional training contracts versus 421,000 and 187,000 in 2010.

([www.lapprenti.com/html/apprentissage\\_une/chiffres.asp](http://www.lapprenti.com/html/apprentissage_une/chiffres.asp)).

**-Continuing Education** Students may pursue further education after a few years of professional experience in public organizations like *Conservatoire National des Arts et Métiers*, in universities, or in private continuing education institutions.

French people are attached to selective channels because they know that these teaching organizations mean a stronger commitment from staff and faculty. A large part of private superior education targets young people that do not have the level to enter to the more selective channels but think that they may ask for more care to a paying institution than to a free one (Davidenkoff, 2014 p. 72).

One out of five students is currently in a private Higher Education organization in France (Davidenkoff, 2014, p.143). In these institutions students are pampered and coached. One of the objectives of this research is to understand which antecedents might explain intention to adopt an online coaching app and if and how they differ among different types of superior education students and their levels. Many of the organizations in the French High Education system are currently using e-learning tools, blended learning, and MOOCs. In this context collaborative learning emerges naturally. But, *what is collaborative learning?*

Collaborative learning is an active process where learners enter into a joint activity and adopt common goals that bring them together to perform tasks or solve problems (Arbore et al., 2014). A meta-analysis has shown that collaborative learning is effective both in terms of learning achievement and also at the level of student satisfaction (Arbore & al., 2014).

Nevertheless, success in Higher Education studies is like success in sports or music – a lot of work, discipline, perseverance and motivation are required. Here is where the “*human support*” either from family, peers, higher education staff/faculty or independent coaches appears to have its utility.

### **Online Coaching or e-Coaching: Definition and Categories**

The word coaching, used also in French, was originally used for sport training: the sporting coach is almost always a former athlete with a long career in the discipline. Through his experience and charisma, the coach helps the athlete find the resources to excel. Most professional athletes have a coach and recognize that without his/her help their results would be significantly diminished. In the corporate world, professional coaching emerged in the 1990s. This type of coaching aimed to accompany a person to allow her to find professional improvement

According to Moral and Angel (2014), coaching aims to develop skills. Another type of coaching is called: “Life coaching” or personal coaching. The goal of this coaching is to guide a person towards a personal or a life goal (Moral, 2014, p.11). Coaching is commonly a trade service, which means that people have to pay for it, while personal mentoring is generally a non-transactional service (Moral&Angel, 2014).

Recent technological developments have spurred digitalization of complex credence services (Schuster et al, 2013), including monitoring apps such as *Google now*, which helps you stay on schedule throughout your day provided that you use the different free google services like Gmail.

On June 8th 2015, Apple announced improvements to its voice assistant *Siri*, who will now alert you when you need to leave so you do not miss your train, and automatically insert appointments in your agenda according to the SMSs and e-mails you receive. Microsoft has a similar App called *Cortana*. However, as of this writing there is no specific coaching App in France to help students during their undergraduate or graduate studies, or to help executives in continuing education programs. The purpose of this research is to explore and understand the adoption patterns for this type of Educational Coaching App. The insights and learning from this explorative research could help to develop relevant coaching Apps for students.

*Could an Informational mobile coaching App be adopted by students? Which students would be keener on adopting it: university students that do not have as much human coaching as students in private schools? Continuing education students that use online and blended learning, as they need motivation to stick to their studying obligations? Or maybe private post baccalaurean business schools where students often come from higher income families and consume more “technological gadgets?”*

### **Consumer Acceptance Patterns of Mobile Coaching Apps**

Researchers have investigated some of the challenges facing mobile providers and consumers (Chen 2012, Karaiskos et al 2008, Malhotra and Segars 2005). Perugini and Bagozzi (2001) and Karaiskos and colleagues (2008) conducted studies about inhibitors and drivers of mobile data services or Apps using their own model and Triandis's theoretical model rather than Davis' acceptance model (1989), which includes affect as a separate determinant of intention.

Cauchy and his colleagues (2015) have demonstrated – based on a car sharing service adoption pattern – that anti-adoption factors are distinct constructs that do not constitute mere opposites of reasons for adoption (i.e., relative advantage). Consumers often weigh anti-adoption factors disproportionately higher than potential benefits (Gourville, 2006). These authors have argued that consumers' beliefs about innovation characteristics are not necessarily salient factors in their adoption decisions. Also, managers should focus instead on context-specific reasons for and, more importantly, against adopting innovations.

Our research focuses on the intention to try a new Mobile Coaching Service aimed at coaching students through an App on their mobile phone. The focus is on trial, as previous experiences of companies have indicated that a key barrier in new technologies/service adoption is getting customers to actually try the self-service technology for the first time (Meuter et al, 2005). However, a trial does not directly imply adoption; the adoption of an innovation can be defined as the initial purchase or repeated purchase of the innovation, depending on the context (Cacho-Elizondo et al, 2013).

For frequent-purchase products, purchase repetition is necessary to be able to consider a product/service adopted, and the threshold of three purchases has appeared as an acceptable threshold (Cestre, 1996). An App can be considered adopted when the app is installed on the smartphone, although this does not guarantee that the app is actually used.

## Attitudinal Models predicting Consumer Acceptance

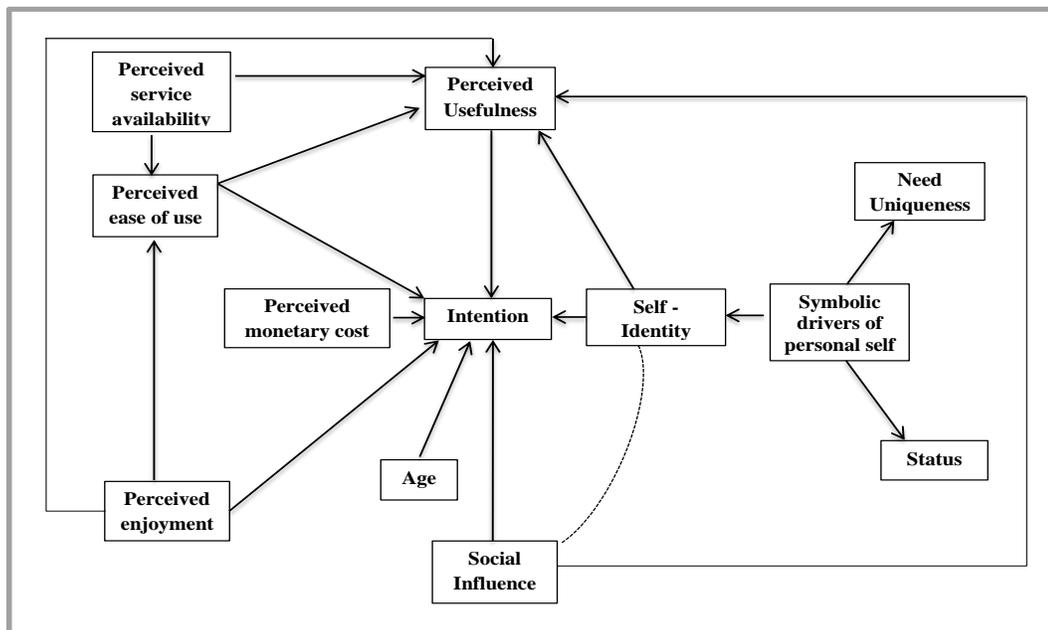
Research examining consumer acceptance has focused on attitudinal models predicting consumers' acceptance of TBSS (e.g. Curran & Meuter, 2005; Dabholkar & Bagozzi, 2002; Schulster *et al.*, 2013). These studies employ the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Technology Acceptance Model (TAM) (Davis *et al.*, 1989) and Theory of Planned Behavior (TPB) (Ajzen, 1991).

The TRA and TPB are general attitudinal models discussed extensively in marketing and psychology literature (Schulster *et al.*, 2013). The TAM is an adaptation of the TRA to a technology acceptance context. It introduces perceived usefulness and perceived ease of use as determinants of attitude toward, and acceptance of technology (Davis *et al.*, 1989).

Among the different adoption models identified in the literature review, the TAM model (Davis, 1989), as re-specified by Hong and Tam (2006), was chosen for the purpose of this explorative study. The TAM model is widely used and quoted; one of its major strength is its parsimony (Bagozzi, 2007). TAM has already been used to study individual attitudes and behaviors toward mobile Apps (Andrews *et al.*, 2013; Cacho-Elizondo *et al.*, 2013).

The adjusted model proposed by Hong & Tam model is as follows:

**Figure 1: TAM model readjusted by Hong & Tam (2006)**



**Source:** Arbore A., Soscia I. and Bagozzi R.P.(2014). “The Role of Signaling Identity in the Adoption of Personal Technologies”, *Journal of the Association for Information Systems (JAIS)*, 15 (2), February, 86-110.

To our knowledge there are no Coaching apps to coach students. For that reason we focus on the intention to adopt Apps rather than the actual adoptive behavior. When an information-technology-based App is in the early stages of diffusion, the intention to adopt is a more appropriate object of study (Hong & Tam, 2006; Cacho-Elizondo & al., 2013). Additionally, one construct that is inherently tied to the evaluation of a self-service experience is the degree of human interaction desired during the transaction. Recent qualitative studies have identified customer need for human interaction as one of the main reasons for not adopting a self-service technology (Collier & Kimes, 2012).

Perceived usefulness is defined as the degree to which a person believes that using a particular technology will enhance his or her job performance (Davis, 1989). It determines both the attitude and the intention to use. The perceived ease-of-use is defined as the degree to which a person believes that understanding and using a particular technology will be effortless (Davis, 1989). This leads the individual towards a perceived usefulness but also to an attitude that directly affects the intention to use (Davis et al., 1989, p. 985).

Ease of use is different than convenience, which addresses the time and effort exerted before, during, and after a transaction (Collier & Kimes, 2012). Self-service technologies, like coaching apps, give customers the convenience to overcome many traditional constraints such as time, availability, scheduling, and location (Collier & Kimes, 2012).

Later, Hong & Tam (2006) have shown that perceived usefulness exercises a direct positive influence on the intention to adopt multi-purpose information services. These authors also demonstrate that perceived monetary value exerts a positive influence on the intention to adopt these services, as does perceived enjoyment. Their study also confirms that the perceived enjoyment has a positive influence on perceived usefulness and perceived ease-of-use, and that social influence has a positive influence on the intention to adopt.

Figure 2 shows the proposed theoretical model based on the TAM.

## **Hypotheses**

According to the TAM model as readjusted by Hong & Tam (2006):

**H1:** Perceived ease of use influences intention to adopt the coaching App.

**H2:** Perceived enjoyment influences intention to adopt the coaching App.

Based on Dodds, Monroe and Grewal (1991):

**H3:** Perceived monetary value influences the intention to adopt the coaching App.



The TAM model, readjusted by Hong and Tam (2006), help us also to state the following hypothesis:

**H4:** Perceived usefulness influences intention to adopt the coaching App.

**H5:** Subjective norms (that Hong and Tam call social influence) influence intention to adopt the coaching App.

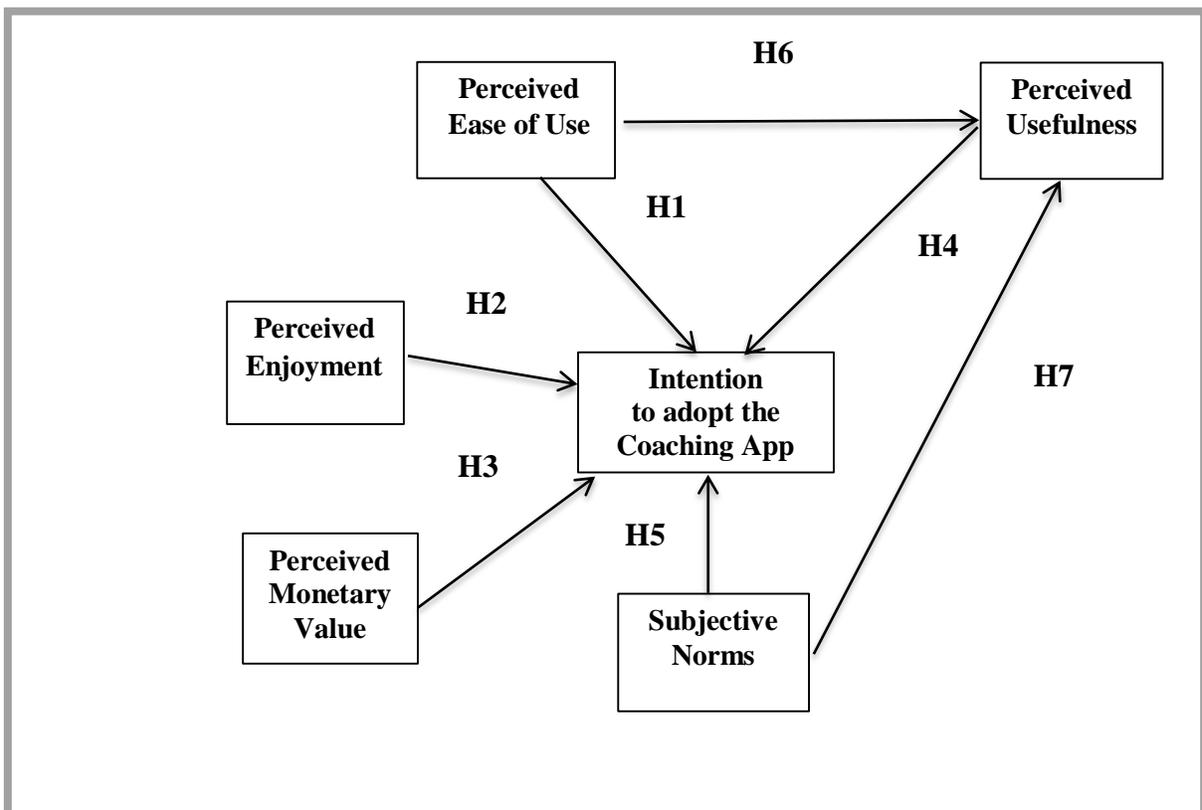
**H6:** Perceived ease of use influences perceived usefulness of the coaching App.

**H7:** Subjective norms influence perceived usefulness of the coaching App.

As stated by Hong and Tom (2006), studies have reported that demographic characteristics play an important role in technology acceptance (Rogers 1995 Zmud 1979). Therefore, we hypothesized that gender will have a moderation role across variables.

**H8:** Gender moderates the causality links between variables

**Figure 2: Theoretical model based upon adapted TAM**  
(Hong and Tam, 2006)



## **Methodology**

This research is based on two studies: one qualitative and the other quantitative. The qualitative study is based on ten in-depth interviews of undergraduates at a French business school. These students shared their thoughts about the following issues: 1) how they appraise their higher education and what could be improved; 2) their use of online tools; 3) how they understand coaching; 4) their reactions to the following script, and finally, 5) their use of coaching Apps (ex: for calorie control, sports...)

The script used in the interview stated:

*Imagine an app on your mobile that gives you access to data on students in commerce and management, and to forums and blogs to exchange your personal experience and advice. There would also be an e-mail or sms system of alerts to help you in your efforts to start working, and with respect to lead times for submitting your homework. ....*

The second study was an online survey (via Sphinx iQ2) with a convenience sample of students from three types of educational institutions: a university, a business school, and a continuing education program. The objective was to measure the theoretical model and validate the hypotheses. The questionnaire also covered the demographic profile of participants and the level of their studies. The duration of the survey was approximately 10 minutes.

## **Measures**

Below is the analysis of the data collected through the survey with students. The analysis done used the structural equations methodology (Amos). Ten 5-point Likert scales from “totally disagree” to “totally agree” were used to measure the variables in the model.

Exhibit 1 shows a table describing the scales, labels, items and the authors that inspired these scales.

## **Statistical Analyses and Results**

### **Descriptive Analysis**

The sample shows a homogeneous distribution between men and women. Among the participants (N=194), 74.2% are between the ages of 18 and 23 (see Table 2). Over half of the sample consisted of Business school students. The education level is on an average 3.18 (years after high school diploma). Among the participants, 45.9 % of them have a Bachelor's degree, and 20% are in the process of obtaining this level.

**Table 2: Descriptive Statistics of Potential Users**

<b>Demographics</b>	<b>% (N=194)</b>
<b>Gender</b>	
Female	54.6
Male	45.4
<b>Age</b>	
<18	0.5
18-20	27.3
21-23	46.9
24-26	7.7
>26	17.5
<b>Institution of higher education</b>	
University	17.5
Business school	55.2
IUT, BTS (University Institute of Technology, two-year technical degree)	8.2
Training institution	9.8
A training center for apprentice	2.1
Others	7.2
<b>Education level in progress</b>	
<b>Bachelor's degree</b>	
L1	18.6
L2	10.3
L3	21.1
<b>Master's degree</b>	
M1	27.3
M2	18.6
Others	4.1

**Table 3: Mean and Standard Deviation of Variables**

<b>Variables</b>	<b>Mean</b>	<b>Standard. Deviation</b>
<b>ENJOY</b>	3.49	1.28
<b>INT</b>	2.78	1.50
<b>PEU</b>	4.21	1.26
<b>PU</b>	3.50	1.44
<b>SOCIAL</b>	2.89	1.30

*Note:* ENJOY (Perceived enjoyment); INT (Intention to adopt the mobile coaching service), PEU (Perceived ease of use); PU (Perceived usefulness); SOCIAL (Subjective norms). MONEY is excluded see below.

We tested all hypotheses using the structural equations technique, and we applied the maximum likelihood fit function. A two-stage approach was used as recommended by Anderson and Gerbing (1988). First, we assessed the measurement instruments for the constructs by examining the reliability and validity of scales. Then, the relationships were tested. Table 3 shows the mean and standard variation of the main variables.

## Scale Reliability and Validity

The reliability of all instruments was tested by Cronbach's alpha reliability coefficient (see Table 4). All coefficients are acceptable, except those associated with the perceived monetary value construct ( $\alpha=0.62$ ). Consequently, the MONEY construct was eliminated from the model and hypothesis H3 was not tested. As the following table shows, the Jöreskog  $\rho$  values are high (except for the MONEY construct). Each item is better explained by the construct it relates to than by chance. Concerning convergent validity, the influence of relationships (between the measures and their construct) is statistically different from 0 (even if the average extracted variance between a construct and its measures is approximately above 0.5 for some constructs, excluding the MONEY construct).

**Table 4: Scale Reliability and Validity**

	<b>ENJOY</b>	<b>INT</b>	<b>MONEY</b>	<b>PEU</b>	<b>PU</b>	<b>SOCIAL</b>
<b>Cronbach's alpha</b>	0.84	0.94	0.62	0.85	0.90	0.87
<b>Standardized item loading (&gt; 0.5)</b>						
Item 1	0.75	0.89	0.22	0.70	0.84	0.80
Item 2	0.80	0.88	0.79	0.76	0.91	0.76
Item 3	0.72	0.88	0.84	0.82	0.84	0.75
Item 4	0.75	0.95		0.80		0.86
<b>Average extracted variance(<math>\rho_{vc}&gt;0.5</math>)</b>	0.42	0.81	0.33	0.43	0.45	0.45
<b>Jöreskog <math>\rho</math> (&gt;0.70)</b>	0.74	0.95	0.55	0.75	0.71	0.77

*Note:*ENJOY (Perceived enjoyment); INT (Intention to adopt the mobile coaching service), MONEY (Perceived monetary value); PEU (Perceived ease of use); PU (Perceived usefulness); SOCIAL (Subjective norms).

To test discriminant validity, we conducted a Chi squared difference test (by reference to the difference in degrees of freedom). To test the discriminant validity, the analysis recommended by Bagozzi and Yi (1991) relies on a comparison between the  $\chi^2$  values of a model that leaves the correlations between the different constructs free, and a model in which the correlations between constructs are fixed at 1. If the difference is significant in view of the difference in degree of freedom, it can be concluded that the model tested is better than the constrained model and that the constructs are different. The results for the indicators used in our study are satisfactory.

## Estimation of the Model

Having established that the goodness of fit is satisfactory, we can interpret the estimations of linear relationships. Our model has two sub-models: one to measure independent variables, one to measure dependent variables and a structural model connecting the latent dependent variables to the latent independent variables. There are several observed independent variables that depend on latent variables. These latent variables are correlated (in each model).

There are also several observed dependent variables (4 items concerning intention, for example) that depend on several latent variables. The indicators are fairly satisfactory (see Table 5). The data thus show a satisfactory goodness of fit for the theoretical model.

**Table 5: Goodness of Fit**

<b>RMSEA</b>	0.08
<b>NFI</b>	0.884
<b>CFI</b>	0.926
<b>TLI</b>	0.911

As shown in Table 6, the “Perceived usefulness” contributes significantly to the “Intention to adopt the mobile coaching service”. The strong effects of “Perceived ease of use” and “Subjective norms” on the “Perceived usefulness” are noticeable. The “Perceived ease of use” and “Subjective norms” have an indirect influence on intention.

**Table 6: Effects of Variables**

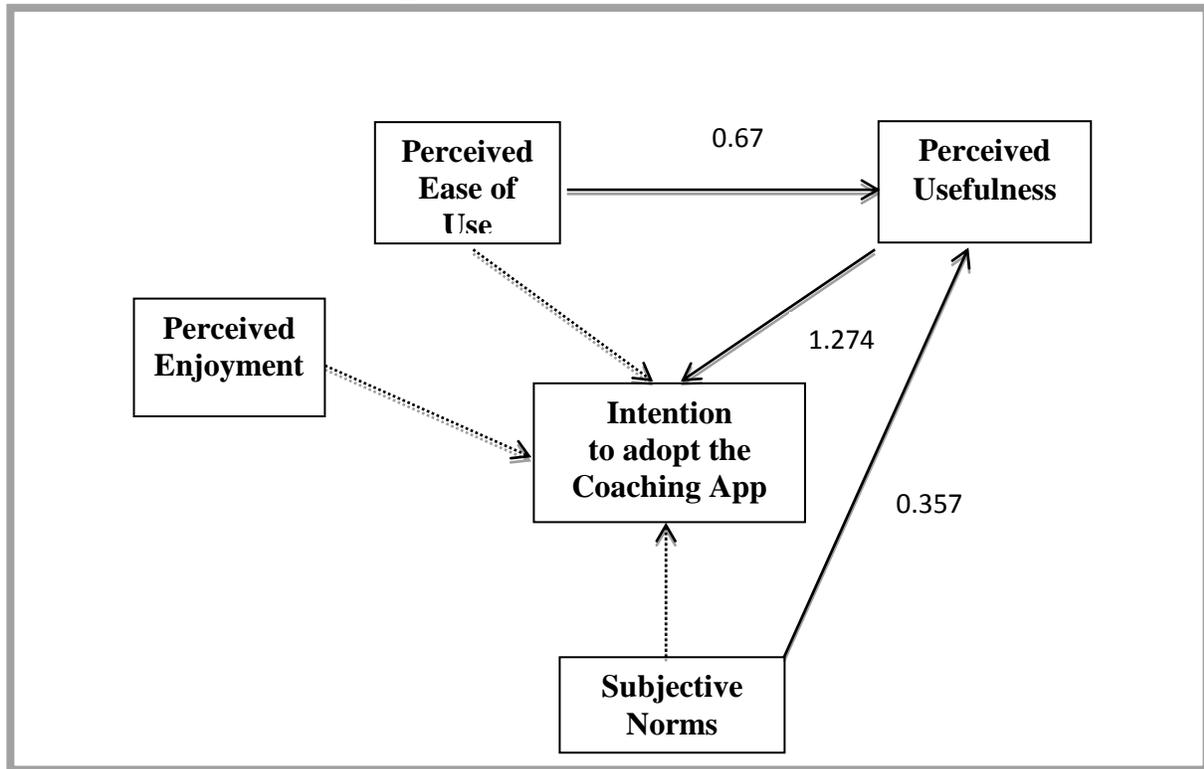
<b>Variables</b>	<b>Standardized Regression Weights</b>
<b>INT</b>	
<i>ENJOY</i>	0.190
<i>PEU</i>	-0.632
<i>PU</i>	1.274*
<i>SOCIAL</i>	-0.001
<b>PU</b>	
<i>PEU</i>	0.670*
<i>SOCIAL</i>	0.357*

*Note:* ENJOY (Perceived Enjoyment); INT (Intention to adopt the mobile coaching service), PEU (Perceived ease of use); PU (Perceived usefulness); SOCIAL (Subjective norms); \* $p < 0.001$ .  $R^2 = 0,84$  in each model

Consequently, hypotheses H4, H6 and H7 are validated.

The validated model is illustrated in Figure 3.

**Figure 3: Result of the Model Tested**



Note: \* Only significant coefficients (0.1%) are reported

### Multi-sample Analysis between Men and Women

The model tested is now estimated for the same population, this time split by gender. In both subsamples, the data show fairly satisfactory goodness of fit for the model.

**Table 7: Comparison between variables**

Variables	Sample 1 <i>Female</i> (N=106)	Sample 2 <i>Male</i> (N=88)	F ( <i>df=1</i> )	p	Eta <sup>2</sup>
ENJOY	3.53 1.28	3.44 1.28	0.229	0.633	0.001
INT	2.78 1.52	2.79 1.47	0.001	0.977	0.000
PEU	4.21 1.26	4.21 1.28	0.000	0.988	0.000
PU	3.51 1.39	3.49 1.50	0.007	0.932	0.000
SOCIAL	2.84 1.34	2.94 1.27	0.303	0.583	0.002

Note: (1) The mean (2) The standard deviation

Table 7 shows that there is no significant difference between variables. However, the Perceived usefulness of women has more influence (even more than those of the whole population) on Intention to adopt the mobile coaching app than the Perceived usefulness of men (see table 8). men's subjective norms have a bigger influence on Perceived usefulness than women's subjective norms (in contrast with Hong and Tom (2006)). H8 could not be rejected.

**Table 8: Effects of Variables**

<b>Variables</b>	<b>Standardized Regression Weights Female (55%)</b>	<b>Standardized Regression Weights Male (45%)</b>
<b>INT</b>		
<b>PU</b>	1.394**	1.240***
<b>PEU</b>	0.705***	0.613***
<b>SOCIAL</b>	0.354***	0.378***

Notes. Intention to adopt the mobile coaching service), PEU (Perceived ease of use); PU (Perceived usefulness); SOCIAL (Subjective norms); \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

## **Discussion**

According to our analysis we would discuss the following topics in relation with the main variables considered to study the adoption of educational mobile coaching apps:

### ***Acceptance of mobile coaching***

Our participants are not accustomed to mobile apps (90% have never tried one) and as this one does not yet exist, they have difficulty imagining how it might help them. Also, the identified customer need for human interaction is one of the main reasons for not adopting a self-service technology (Collier & Kimes, 2012). These reasons may explain why intention to use such an app is low, with 2.78 out of a scale with 6 points (1: no intention to adopt, 6: a definitive intention to adopt).

### ***Subjective norm***

Subjective norms seem less important for this type of TBSS. It appears that friends, family, peers would have limited impact on acceptance of this coaching app. We have to mention that the mobile coaching app is produced and consumed anonymously via a private technological platform. Ratner and Kahn (2002) show that individuals adhere to social norms more stringently when their behavior is identifiable. Overall, this finding provides initial evidence that subjective norms may not be a strong determinant of students' acceptance of coaching apps and TBSSs delivered via private technological platforms more generally.

### ***Need for interaction***

The lack of personal interaction may be a disadvantage for those who value the personal interaction characteristic of credence services (Ostrom & Iacobucci, 1995).

### ***Convenience***

People may not want to deviate from their normal activities, particularly as their lifestyle already involves using mobile phones, to access the service and the availability of the service at the "right time," when needed by respondents (Schuster et al, 2013).

### ***Perceived usefulness***

The students do not know enough about the usefulness of such an app (mean of perceived usefulness 3.5 on 6 points). “Perceived Usefulness” moderates on the one hand the relation between “Perceived ease of use” and the “intention” and on the other hand the relation between “Subjective norm” and the “intention.” As the “Perceived Usefulness” has a high influence on intention, it is important for the future enterprise to focus on the usefulness of this new application.

### ***Perceived ease of use***

As expected by TAM, it influences Perceived usefulness. It is rather intuitive to understand that an app that is too difficult to use won't be useful to students that need something that simplifies their lives.

### ***Perceived enjoyment***

It seems that it doesn't influence intention to adopt; students say they are not interested in an enjoyable app. Although many examples show that even though the service is a very serious one, students would welcome an app that is pleasurable to use.

## **Implications and Future Research**

### ***Practical implications***

Succeeding in education can be considered a social goal. Our article contributes to the social marketing literature by building on existing knowledge of consumer decision-making in social contexts. Its findings can be used to encourage young adults' acceptance of self-help coaching apps for better organizing their studies. A key benefit that should be highlighted to potential users is the convenience of such an app; its lifestyle compatibility and instant availability during times of need. It is important to emphasize service efficacy as it may be not perceived as conducive to improved studying as a face-to-face counterpart.

Consumer expectations of service efficacy need to be managed, as low intention of adoption suggest that students may be unconvinced of technology's ability to successfully capture the specialized knowledge of service providers.

### ***Future Research***

This study provides quantitative evidence of the determinants of consumer acceptance of an emerging TBSS that is high in credence qualities, and aimed at achieving a social goal. However, future research is needed to improve the generalizability of the findings across other social and commercial credence services. Findings are also limited to the cultural French context in which the study was undertaken.

Further research should be conducted across different cultural contexts to account for differences in social norms and beliefs. Another limitation is that the sample used in this study may not be truly representative given the fact that it is a convenience sample in a limited number of higher education schools in France.

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## Apps

<b>Cortana:</b>	<a href="http://windows.microsoft.com/en-us/windows/preview-cortana">windows.microsoft.com/en-us/windows/preview-cortana</a>
<b>Google Now</b>	<a href="http://www.google.com/intl/es-419/landing/now/">www.google.com/intl/es-419/landing/now/</a>
<b>Siri:</b>	<a href="http://www.apple.com/mx/ios/siri/">www.apple.com/mx/ios/siri/</a>

## Web sites

<b>CNAM</b> : Conservatoire Nationale des Arts et Métiers (Paris, France).	<a href="http://www.cnam.fr">www.cnam.fr</a>
<b>EDC Paris Business School</b> : Ecole des Dirigeants et Créateurs d'entreprise (Paris, France)	<a href="http://www.edcparis.edu">www.edcparis.edu</a>
<b>IPADE Business School</b> (Mexico City, Mexico)	<a href="http://www.ipade.mx">www.ipade.mx</a>

**Table 1: Concepts, Labels, Items and Source**

Concept	Label	Items	Adapted from
<b>Intention to Adopt the Mobile Coaching App</b>	<b>INT</b>	<ol style="list-style-type: none"> <li>1. In the coming year I'll certainly try to use a mobile coaching service for my studying that will support me, help me in the organization of my reviews and allow me to improve my performance</li> <li>2. In the coming year I'll absolutely try to use a mobile coaching service for my studies.</li> <li>3. In the coming year I'll certainly make an effort to try to use a mobile coaching service for studies.</li> <li>4. In the coming year I plan to use a coaching service for my studies.</li> </ol>	Perugini M. et Bagozzi R., 2001
<b>Subjective norms</b>	<b>SOCIAL</b>	<ol style="list-style-type: none"> <li>1. People who are important to me would want me to use a mobile coaching service for studies if I needed to be supported in the organization of my reviews and to improve my performance in my studies</li> <li>2. People who are important to me would approve that I use a mobile coaching service for studies if I wanted to be supported to improve the organization of my studies and my performance in studies.</li> <li>3. People who are important to me would help me to use a mobile coaching service for studies.</li> <li>4. People who are important for me would encourage me to use a mobile coaching service for studies if I needed to be supported by the organization of my reviews and to improve my performance in studies.</li> </ol>	Perugini M. et Bagozzi R., 2001
<b>Perceived Monetary Value</b>	<b>MONEY</b>	<ol style="list-style-type: none"> <li>1. I expect that this mobile service would have a reasonable price.</li> <li>2. This mobile service would offer good value for money.</li> <li>3. I believe that at the right price, this mobile service would be good value.</li> </ol>	Dodds, Monroe et Grewal, 1991
<b>Perceived Enjoyment</b>	<b>ENJOY</b>	<ol style="list-style-type: none"> <li>1. I expect that using this mobile service would be enjoyable</li> <li>2. I expect that using this mobile service would be pleasurable</li> <li>3. I expect to have fun using this mobile service</li> <li>4. I expect that using this mobile service would be interesting</li> </ol>	Davis et al., 1992
<b>Perceived usefulness</b>	<b>PU</b>	<ol style="list-style-type: none"> <li>1. Using this mobile service would increase my chances of achieving things that are important for me.</li> <li>2. I would find this mobile service to be useful in my daily life.</li> <li>3. Using this mobile service would help me accomplish things more quickly.</li> </ol>	Davis, 1989
<b>Perceived ease of use</b>	<b>PEU</b>	<ol style="list-style-type: none"> <li>1. I expect that learning how to use this mobile service would be easy for me</li> <li>2. I expect that my interaction with this mobile service would be clear and understandable</li> <li>3. I would find this mobile service to be easy to use</li> <li>4. I expect that it will be easy for me to become skillful at using this mobile service</li> </ol>	Davis, 1989