



International Journal of Current Research and Academic Review

ISSN: 2347-3215 (Online) Volume 13 Number 10 (October-2025)

Journal homepage: <http://www.ijcrar.com>



doi: <https://doi.org/10.20546/ijcrar.2025.1310.002>

Effect of Mobile Learning Integration on Training Effectiveness and Skills Development in Small and Medium-Sized Enterprises in Cotonou

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Abstract

The research focused in general on the effects of integrating mobile learning on the effectiveness of training and skills development in small and medium-sized enterprises in Benin, especially in Cotonou. To do this, a mixed search was prized. The techniques used are the interview and the questionnaire. This research was addressed to 101 respondents grouping four target groups. Quantitative data is processed through KoboCollect and Excel software and information through content analysis. The interpretation and analysis of this data was done through the analysis model built from connectivism, the technological acceptance model and the PC usage model. The main results show that continuing training practices within small and medium-sized businesses in the city of Cotonou have remained traditional. Also, these results highlighted the factors that can promote the implementation of mobile learning in the training process of small and medium-sized enterprises. However, it should be noted that several obstacles make said implementation difficult, obstacles that must be overcome. Ultimately, complementarity between face-to-face training and mobile learning appears to be an effective means of developing skills and ensuring better performance of small and medium-sized enterprises.

Article Info

Received: 18 August 2025

Accepted: 25 September 2025

Available Online: 20 October 2025

Keywords

Mobile learning; lifelong learning, capacity building; competence development

Introduction

The world is experiencing rapid and profound changes in almost every area, transforming both social and professional life. These developments do not spare the world of work, which must adapt to growing demands for flexibility and efficiency. As Held (1997, p. 11) points out: "The increasingly significant and rapid changes currently being experienced (concurrent engineering, globalization, etc.), the focus on added value, service, and a customer now at the center, are

leading organizations to simultaneously adapt their structures and human potential to new requirements to ensure sustainability and growth."

In this context, companies, particularly small and medium-sized enterprises (SMEs), must focus on developing the skills of their staff. According to Julien (1997), a small and medium-sized enterprise is characterized by its small size, a simplified management structure, and its independence, which gives it great flexibility, but also specific resource constraints. Human

skills then become an essential strategic lever for maintaining competitiveness and ensuring sustainable growth.

Increasingly, training represents one of the greatest challenges and a significant investment in corporate human resources management. Human skills are becoming a true strategic focus, the development of which constitutes a key source of competitive advantages. In this context, training occupies a central place and is integrated into a broad and diverse set of skills development initiatives. (Gnonle, 2022).

The issue of assessing the impacts of technology and technical progress on the performance of the company as a whole is a constant concern of economists and managers. Performance is considered the company's ability to achieve its objectives. A summary of research findings on Information and Communication Technologies (ICT) during the 1980s and 1990s highlights mixed and sometimes even contradictory results (Reix, 2002). Thus, it must be recognized that the question of the impact of ICT on performance remains unanswered, although the literature offers tentative answers. Since then, we have witnessed the development of numerous studies in several directions. Some works (Menon *et al.*, 2000; Devaraj and Kohli, 2003), support the idea of the existence of a positive relationship between ICT and organizational performance.

The advent of Information and Communication Technologies (ICT) has transformed training methods, giving rise to e-learning and, more recently, mobile learning. According to UNESCO (2012), mobile learning is a learning method that uses mobile devices to access educational content anytime, anywhere. Unlike traditional e-learning, it emphasizes flexibility and accessibility, offering training on the move, adapted to the needs of modern learners.

The importance of mobile learning became apparent during the 2010s and 2020s. This concept of learning emerged in the 2000s with definitions by Quinn (2000), Alexander (2004), and Wang (2004). In 2012, UNESCO proposed a definition that achieved consensus: mobile learning or mLearning or mobile learning is education that involves the use of mobile devices to enable exercise beyond the constraints of time or location. The possibility of overcoming constraints is consistent with the definition of Hidayat and Utomo (2014). They argue that mobile learning can be defined as a service offering

general information to the learner through electronic media.

With mobile learning, face-to-face training is a thing of the past. Learners are no longer tied to a specific location to attend training and courses. This may seem similar to online learning, but there are important differences. Mobile learning was quickly adopted in the school, university, and professional systems. Today, it is more than ever in large organizations as an alternative to basic digital learning, or even as a complement to traditional face-to-face training.

Since Africa is not a continent in its own right, it has also been affected by all the technological advances emerging around the world. Across its countries, and more specifically in Benin, this continent is home to a wide range of companies, both private and public, most of which do not consider professional training a priority. In Benin, despite the strong adoption of mobile technologies, companies, particularly SMEs, are struggling to integrate innovative solutions into their training programs. As Medeou (2022) indicates, traditional training methods, often rigid, do not fully meet the needs of employees, thus limiting their professional development.

In view of these shortcomings in the training process of companies in Benin, based on a personal analysis and the writings of researchers who have shown that it is important for companies to adapt to a constantly changing environment, it is imperative to explore innovative and personalized strategies to ensure more effective training, thus promoting the development of individuals and the sustainable growth of companies in Benin. Therefore, the main part of our reflection will focus on the possibility of alternating between face-to-face training and mobile learning (an innovative training model) in companies and on the factors necessary for the integration of mobile learning into the training process within companies in Benin and more specifically in the city of Cotonou. While several studies have been devoted to the issue in America, Europe and some developed countries, Africa is only timidly addressing it, even though the mobile device subscription rate is the highest there: "mobile phone coverage (the proportion of the population within range of a mobile phone signal) in Africa is 88.4%, which is slightly higher than the proportion of the population currently within range of a mobile phone signal (ITU, 2022). Thus, the question arises as to what are the limits of the traditional training

method in training programs in companies in Cotonou, Benin?

Materials and Methods

Methodological Approach

Nature of the Research

This research is of a mixed nature: quantitative and qualitative. It analyzed the effect of integrating mobile learning on the effectiveness of training and staff skills development in companies in the city of Cotonou. More specifically, it first described current staff training methods in the skills development process of companies; then identified the factors necessary for integrating mobile learning into the training process of companies. Finally, this research demonstrated the effects of mobile learning on the performance of company staff in the city of Cotonou.

Sampling

By definition, a sample is a miniature population that includes all the characteristics of the study population to be representative (Grawitz, 2001). Sampling is the set of operations used to select a subset of a population in order to constitute a sample. At this level, we will share the sampling methods and techniques used as well as the size of the chosen sample.

Survey Population

This refers to the entire group of subjects covered by our research. Given the specific nature of the information we need to collect, we have categorized our survey population into four (4) groups for the purposes of this research. These are:

- Company personnel: They represent the very first target of this research. More specifically, they are the personnel working in small and medium-sized enterprises. They constitute the primary target of this research;
- Managers, in this case business leaders: These are the decision-makers regarding the way companies operate; they constitute a major stakeholder group on which this research is based. As guarantors of the efficiency and productivity of their teams, their inclusion in the research is essential;
- Training engineering specialists: They analyze the company's environment to develop training

programs. They therefore constitute an important target for our research. In our research, these are training managers and/or human resources management specialists;

- Mobile training application designers. They bring their technical and creative expertise to support companies in implementing mobile training applications. They are experts in the tools used in implementing mobile applications and supporting online training for individual and/or community support.

Sampling Methods and Techniques

In order to conduct our research, a sample was taken from businesses in the city of Cotonou. Indeed, it is difficult, if not impossible, to survey every business in the city. Therefore, for reasons of time, financial resources, and statistical logic, it was decided to sample the target groups covered by this research.

To operationalize the survey, we used both probability and non-probability sampling methods. Each of these methods refers to specific sampling techniques, of which we used three: random selection, purposive selection, and snowball sampling. According to Quivy and Campenhoudt (1985, p. 73), simple random selection "consists of randomly selecting a given population using any method." This technique allows us to affirm that since it is impossible to conduct surveys among the staff of all companies in the city of Cotonou, we are forced to make a selection from the sample to promote its representativeness. The same is true for managers, such as business leaders.

According to Champely (2004, p. 28), snowballing, as defined "consists first of finding a certain number of individuals corresponding to the study population. They are asked to respond to the survey and then to name, among their acquaintances, other people also belonging to the study population so that they can be interviewed in turn."

This technique was used to select mobile application designers who work in corporate training.

Reasonable selection, as defined by Grawitz (1996, p. 487), "aims to make a preliminary selection from a well-known group." This method was used to select training engineering specialists, such as training managers and/or human resources management specialists, who work in companies.

Sample Size

This represents the number of individuals selected to be part of the sample. In this research, we divided our sample into four groups. The first group consisted of company staff members required for the survey. The second group of our sample consisted of business managers.

The third group consisted primarily of training engineering specialists, and the fourth group consisted of mobile training application designers. To define the minimum level of representativeness of the research sample, in its quantitative portion, the Schwartz formula (1995) was used. The formula to determine the minimum projected sample size is:

$$n = t^2 \times P(1-P) / e^2$$

Let: n, the sample; size t; the confidence interval: 2.58 P; the estimated prevalence: 0.5; e, the margin of error: 0.05

The research results will then be generalizable to all employees of small and medium-sized enterprises in the city of Cotonou. The principle of statistical inference allows for the generalization of results from a proportion to a larger number of employees. A quarter (1/4) of the sample size was used for data collection. Eighty-three (83) employees, as the minimum number required to obtain generalizable results, were considered for the quantitative research.

For the qualitative research, we prioritized the saturation threshold while ensuring triangulation at the level of each target audience. This research therefore resulted in: five (05) training engineering specialists, ten (10) business leaders, and three (03) mobile training application designers. Ultimately, for the qualitative research, the sample took into account the target categories concerned by this type of research with the implementation of eighteen (18) semi-structured interviews. For the quantitative research, this research included eighty-three (83) subjects. Moreover, the sample size for this research is one hundred and one (101) subjects, as shown in the table below:

Data Collection

Tools Data collection tools are means of searching for useful information in the field. Thus, we used three tools: the interview guide, the questionnaire, and the documentary research.

The Documentary Research

This research involved a data search on the integration of mobile learning into corporate training programs. The documentary research that was undertaken allowed us to gather documentation related to the research topic. The documentary research consisted of identifying and exploring general and specific works and various studies conducted on different aspects of the topic. A documentary analysis was conducted, which resulted in the collection and analysis of data from potentially useful bibliographic and electronic articles.

Questionnaire

The questionnaire is a technique used to collect written responses for a quantitative analysis of the collected data. It can be defined as a collection of indicators designed to reveal the dimensions of the object of study through empirical investigation.

It allows for the directive questioning of individuals and the collection of quantitative data in order to identify mathematical relationships and make numerical comparisons. The questionnaire was used to collect specific information from company employees.

It was constructed based on the research objectives and various postulates. It contains the following themes:

- Identification;
- Overall corporate training strategy;
- Factors necessary for integrating mobile learning into the corporate training process;
- Effects of mobile learning on the performance of corporate staff.

Interview

The interview is the qualitative method of collecting verbal data. This technique was conducted with target groups composed primarily of business leaders, training engineering specialists, and mobile training application designers.

This method seemed necessary given the importance and sensitivity of the research topic on certain aspects. Its use allows for a more in-depth understanding of the information than a questionnaire could provide. This technique allowed for discussions with the target groups on topics related to the digitalization of workplace training. The tool used here is the interview guide.

Information

Collection and Verification The survey was conducted smoothly, despite some fieldwork challenges, mainly due to the refusal of some organizational managers to grant us an interview and allow us to administer questionnaires to their employees. However, since the questionnaire was shared online via the KoboCollect application, we were able to have a few employees complete it without permission from their line managers. We were therefore able to reach the desired number for this survey after extensive research. Once the questionnaires were completed online by the respondents and properly submitted, we began tracking the number of respondents and the response percentages via KoboCollect. We received 83 responses. As for the interviews with SME managers, training engineering specialists, and mobile application designers, they went smoothly. We interviewed some via Google Meet and others through face-to-face meetings.

Data Processing and Analysis

Method: The data collection techniques and tools identified above enabled the collection of the data that will be processed. The qualitative data collected through the interview guides were structured. This data, recorded by note-taking and using a recorder, was transcribed for processing. The interviewees' comments were analyzed, allowing for data processing to identify commonalities or differences between the statements.

The quantitative data was collected through an online questionnaire administered to company employees. The data, recorded directly in the KoboCollect software, was processed using the same software and Excel 2016. It should be noted, however, that difficulties were encountered during the field survey.

Results and Discussion

Overall Training Strategy

Training Organization

First, it reveals whether or not continuing training is practiced, then what type of training it provides, and finally, it cross-references these training programs and their suitability to employees' needs. Indeed, 57.83% of respondents stated that training is organized within their company, while 42.17% stated the opposite. It therefore appears that the majority of SMEs in the city of Cotonou

practice training within the company. It goes without saying that several managers have understood the importance of training. This is what one business leader emphasizes when he states: "Continuing training is very important in a company. It helps maintain a competitive edge." C.I. (July 2024).

However, it must be recognized that some managers within companies do not understand the importance of continuing professional training in the company, hence the 42.17% for whom training is not organized. For them, staff are recruited because they are considered competent and organizing training for them would be a waste of time and money. This is reflected in the statement of a general manager of an SME who follows: "If he works in my company, it is because he underwent a recruitment process at the end of which he came out deserving. Organizing training for someone who does his job well is a waste of time and unnecessary expense." D.C. (July 2024).

Training organizer

Manager at this point, those whose training is organized were asked to specify the organization responsible for this organization within their company. For those who receive training within their company, the majority stated that this training is organized by their company's training department (58.33%). Then, 31.25% said that the training is organized and delivered by external trainers. For 10.41%, training is organized in various other ways. These include:

- Organization by the Quality Assurance Unit;
- Management;
- Organization by the staff themselves through the establishment of various groups.

It appears that companies that have realized the importance of training have an internal training department, a human resources manager, or even use external trainers for their training.

Training Methods

The majority of SMEs that report providing continuing education attend in-person training (60.41%). Then, 29.16% report attending blended training (in-person and distance learning), while 10.41% report attending distance learning. It therefore appears that in-person training is the most common training practice among SMEs in Cotonou.

Reasons for organizing training within companies

This section presents the reasons why companies in Cotonou organize professional training. For those who receive training within their company, this graph shows that training is organized for several reasons. These are:

- Staff training needs (60.41%)
- Mastery of a new device or system (43.75%)
- Low company performance (31.25%)
- The need to organize training (29.16%).

All of this is reflected in the statement of a Training Engineering specialist: "Companies contact us for several reasons, mainly when they are facing a decline in performance or when they feel that their staff needs to be refreshed." C.A. (July 2024).

Existence of a monitoring mechanism within companies

For the smooth running of any activity, monitoring is necessary. This result assesses the existence or absence of a monitoring mechanism within SMEs in the city of Cotonou. For respondents who stated that training is organized for them (48), 25 respondents stated that there is no monitoring mechanism within companies, while 23 stated the opposite.

Factors Necessary for Integrating Mobile Learning into the Corporate Training Process

This section presents the various factors related to the integration of mobile learning into the corporate training process. It highlights the advantages offered by mobile learning as well as the constraints that may prevent its integration into the training system of small and medium-sized enterprises.

General Information on Mobile Learning

At this level, the aim was to determine whether or not the respondents had ever heard of mobile learning. It appears that 40.96% of respondents have already heard of mobile learning, while 59.04% say the opposite. It can be stated that the majority of respondents have no real knowledge about mobile learning. This is reflected in the statement of a mobile application designer who states that "mobile learning is not very well known to everyone. Most people may practice it without realizing it. It is easily confused with online training, which is e-learning." M.P. (July 2024).

Respondents who have already heard of mobile learning have diverse opinions on its meaning. For them, mobile learning is:

- Access to training content on mobile devices (82.35%);
- A training tool intended for employees who are constantly on the move (44.11%);
- A method that promotes an individualized approach to training (29.41%).

Still others think it is a way to train online (2.94%).

Mobile Learning and Training Effectiveness

The survey asked whether respondents believe that mobile learning can make training more effective within companies. When asked whether mobile learning can help make training more effective within companies, the majority (85.29%) of respondents answered yes, while 14.70% answered no.

This suggests that mobile learning represents significant potential for experimentation in the training process within companies.

Advantages of Mobile Learning

This result presents the various advantages of using mobile learning. According to the results, several advantages of using mobile learning in companies are noted. These include:

- Flexibility in learning (86.20%);
- Budget savings (55.17%);
- The possibility of alternating materials and methods (51.72%);
- The availability of courses and educational resources (44.82%);
- The possibility of customization (34.48%).

Mobile learning therefore appears to be an effective way to strengthen the training system within companies, with the many advantages it offers. A training engineering specialist underlines this aspect, stating that "Technology is increasingly invading all our systems.

If, in addition to using it to pass the time, we can use it to learn skills each time, that's a good thing. It could reduce the costs associated with in-person training, and everyone could learn at their own pace." C.A. (July 2024)

Constraints related to the integration of mobile learning into the corporate training process

This section identifies the constraints that can prevent the integration of mobile learning within companies. According to employee perceptions, 70.58% of employees believe that a lack of initiative from line managers is the major constraint to the integration of mobile learning within the company. It should be noted that the lack of devices that can support mobile learning (55.88%); poor connectivity (55.88%); lack of financial resources (50%), and a lack of quality devices (32.35%) were also highlighted. Added to this are other reasons (5.88%) that cite a lack of learner motivation and a lack of information. These observations were also raised by interviewees: A training engineering specialist: "One of the reasons why integrating learning can be difficult is that managers still think the traditional way is still the best." C.A. (July 2024). A business leader: "We've always done it this way, and it's always worked. Why change it?" D.D. (July 2024).

Effects of mobile learning on employee performance in companies

This section presents the effects of mobile learning on employee performance in small and medium-sized enterprises. It first details the means by which online courses are taken and the benefits that learners derive from them. • Online course completion Here, the question was asked whether or not employees have ever had to take online courses.

This graph shows that 60.24% of respondents say they have already had to take online courses, compared to 29.76% who say the opposite. This suggests that the majority of SME employees take online courses of their own accord. One respondent even states that "in a digital age, we can't do without online training." Anonymous respondent (July 2024).

Method of taking online courses

This result shows the method used to take online courses.

From this graph, it is important to note that the majority of employees who took online courses did so via mobile phone (70%), compared to 24% who did so on a laptop and 6% who did so on both a phone and a computer. • Satisfaction after taking online courses This is to gather learners' opinions on their satisfaction or dissatisfaction after taking online courses.

This graph shows that the majority of people who took online courses were satisfied (96%), while the minority were not (4%). For those who were satisfied, there were several reasons for this. Online courses allowed them to develop or strengthen their skills (74%). They also allowed them to better adapt to their position (30%) and to better participate in the company (26%). As for those who were not satisfied with their online course experience, the main reason was that they had difficulty adapting to this new method, which is different from face-to-face training (2%). Others said they did not have access to a quality connection (2%).

Global Corporate Training Strategy

In a rapidly changing world, continuing education is inevitably at the heart of productivity issues, the valuation of human labor, the professional integration of individuals, and, above all, technological innovation. It makes it essential to improve system performance and requires a significant strengthening of the integration capacity of training systems. In the current context of rapidly evolving markets and technologies, continuing education has become a strategic pillar for companies. The results of the data collection work show that, although SMEs in the city of Cotonou practice continuing education, they remain committed to traditional training practices, which means they are falling considerably behind technological developments and making them less competitive in the face of market demands. At the same time, some companies have not yet recognized the importance of continuing education itself.

Continuing education is a set of guidelines that the company's top management implements to strengthen or develop the necessary skills of its executives. By extension, "it is a lifelong learning process that allows individuals to develop and strengthen their skills throughout their professional careers. It aims to improve employee performance, adapt their skills to changing market needs, and ensure the company's competitiveness," according to A.M., the interviewee. It therefore has an increased performance in the performance and competitiveness of the company through a multitude of effects on the expectations of the staff on the one hand and the needs of the company on the other. Furthermore, it helps to maintain the employability of employees and the continuous adaptation of skills adapted to the needs of the market. Continuing education allows employees to acquire new skills throughout their working lives, enabling them to

return to or stay in employment and to secure or optimize career paths. It is therefore increasingly important not only for performance but also for the company's competitiveness through a multitude of effects on employee expectations and the company's needs.

With new technologies leaving no field untouched, new methods have emerged in the field of training, challenging all the norms of traditional training in terms of organization, financial expenditure, and even skills acquisition. It must be admitted that despite the advantages offered by online training methods, many companies avoid using them because they prefer the old method, "which has never prevented companies from remaining in the market despite some upheavals related to the difficulty of adapting to needs," S.F., Interviewee. This state of affairs is also highlighted by a training engineering specialist who states that "it must be recognized that managers are reluctant to adopt digital methods and prefer to maintain their old habits." A.C. Interviewee.

In the scientific literature, some authors have demonstrated through their work the essential nature of training and the need for companies to keep pace with technological developments. For [Monville and Léonard \(2008, p.7\)](#), "Vocational training is increasingly important due to ongoing technological and organizational changes that require continuous upgrading of skills." It is important to note that technological and organizational developments require companies to continually upgrade their skills.

According to [Lawler \(2003\)](#), continuous learning and development are essential for both the individual and the organization in order to adapt to a rapidly changing environment. This highlights the importance of continuing education for both the individual and the company. The constant evolution of organizational environments forces companies to adapt to changing circumstances and also to effectively face competition.

Yet, this upgrade must be done in the right way!

For [Conner \(2016\)](#), the digital age requires a new approach to learning that is continuous, connected, and participatory. It emerges that far from organizing training with the aim of attracting good talent and remaining competitive, it must be done in a way that takes into account the current demands of the evolving world of technology. In the same vein,

[Masie \(2016, p. 7\)](#) asserts that "the new learning landscape is driven by technology, and this requires us to think differently about how we design and deliver training."

From this perspective, it emerges that today, the key is not only to organize training, but to do so while taking into account the needs of employees and also using the best methods required by current developments.

Investigations conducted revealed that SMEs in the city of Cotonou organize training courses that do not necessarily meet the needs of employees and continue to do so in the traditional manner (face-to-face training), whereas in today's world, training needs to be rethought differently for better results. In reality, in SMEs, there is no training plan, no training policy, and even less a well-established training strategy. Training courses are organized occasionally for specific circumstances.

In summary, the implementation of continuing education in a company must follow essential steps for the smooth running of the company's organization. Indeed, a company wishing to establish itself and adapt to a constantly changing market must equip itself to remain competitive by adopting the best available methods because, as [Taylor \(2019, p.15\)](#) states, "adopting digital learning is essential for organizations to remain competitive and agile in the face of rapid technological advances."

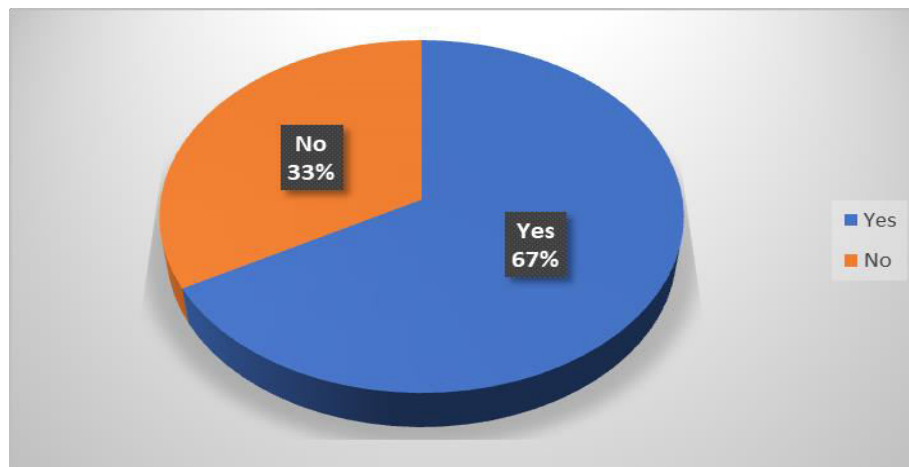
At the end of this analysis, it appears that the first hypothesis of this research, which states that current staff training methods in SMEs in Benin have remained traditional, is confirmed. These results are consistent with those of [Rollot \(2019\)](#). The next section presents the factors necessary for integrating mobile learning into the corporate training process.

Factors Necessary for Integrating Mobile

Learning into Corporate Training Processes Every environment has its own unique characteristics that can only be analyzed using a specific method. In this case, we used Davis's (1989) technology acceptance model.

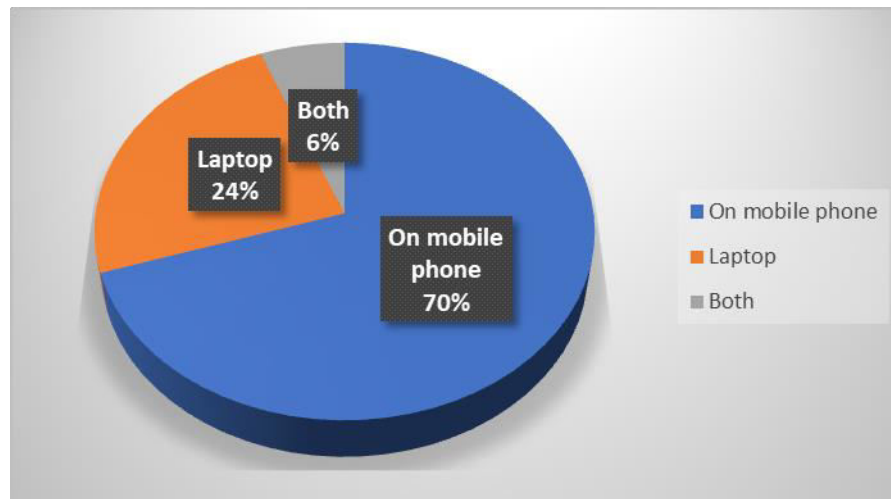
As [Masie \(2016\)](#) and [Taylor \(2019\)](#) have stated, technology has become essential in the field of training. Training in the digital age is not just about acquiring knowledge or skills, but about acquiring them in the best possible way. This is a necessity.

Figure.1 Online course completion



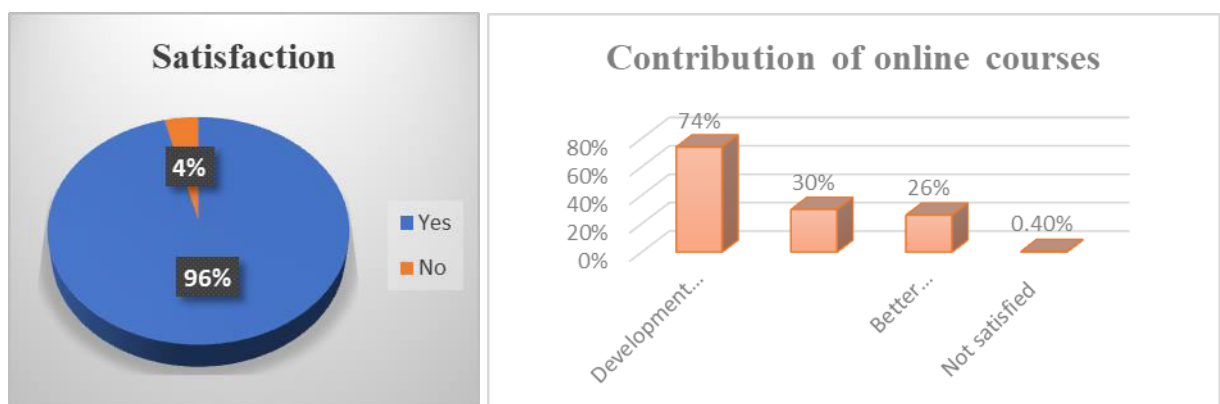
Source: Field data, 2024

Graph.2 Method of taking online courses



Source: Field Data, 2024

Graph.3 Satisfaction after taking online courses



Source: Field Data, 2024

Table.1 Summary table of the sampling method

Target group	Method	Technical
Company staff members	Probabilistic	Simple random
Business leaders		
Training Engineering Specialist	Non-probabilistic	Reasoned choice
Mobile Application Designers Training		Snowball

Source: Field Survey, 2024

Table.2 Sample Size Summary Table

Target group	Staff	Percentages
Company staff members	83	82,17 %
Business leaders	10	9,90 %
Training Engineering Specialist	5	4,90 %
Mobile Application Designers Training	3	2,97 %
Total	101	100%

Source: Field Survey, 2024

Mobile learning is a training method that uses digital technologies to facilitate learning. For Vannoni (2016, p.22), "mobile learning is revolutionizing corporate training by making learning accessible anywhere and anytime, increasing flexibility and employee engagement." This state of affairs confirms that mobile learning is a powerful lever for improving employee performance by allowing them to learn in the flow of their daily work.

Several authors, such as Barbier (2020), have conducted research on the factors necessary for the successful implementation of mobile learning in business. They posit that several conditions are necessary for mobile learning to be well integrated and effective.

The results of our investigations show that several factors favor the integration of mobile learning, while others constrain its implementation. First, our research reveals that the reasons contributing to the implementation of mobile learning in business are several:

- Budget savings;
- Flexibility in learning;
- The ability to alternate materials and methods;
- The availability of courses and educational resources;
- The possibility of customization.

A thorough analysis of the first reason leads us to say that given the characteristics of SMEs, budget savings are a perfect reason to encourage them to adopt mobile

learning. The costs associated with organizing in-person training will be reduced, both for employees ("Mobile learning allows employees to take training courses from any location, eliminating costs associated with travel and accommodation." A.I. Interviewee) and for the company itself ("Mobile learning is done via personal devices such as smartphones and tablets, reducing expenses related to physical infrastructure and equipment." J.A. Interviewee).

As for the last four reasons, they represent the advantages of mobile learning. As Gérard (2019, p.14) states, "Thanks to mobile learning, employees can develop their skills flexibly and productively, which is essential in the modern professional world." Mobile learning allows learners to take courses anytime, anywhere, making it easier to integrate training into their daily schedules. It also allows for the personalization of the learning experience, making training more engaging and effective.

Secondly, our investigations also allowed us to list the constraints associated with integrating mobile learning into corporate training programs. These fall into various categories:

- Lack of initiative from line managers;
- Lack of financial resources;
- Lack of devices that can support mobile learning;
- Poor connectivity;
- Lack of quality devices.

Several authors have conducted research on the constraints associated with integrating mobile learning into the training process within small and medium-sized enterprises. The first two reasons are supported by [Diaz \(2015, p. 11\)](#), who states that "SMEs face significant obstacles to integrating mobile learning, particularly in terms of initial costs, limited resources, and resistance to change."

Furthermore, the last three reasons have been highlighted by several other authors, such as [Pène \(2018, p.19\)](#), who states that "the adoption of mobile learning in SMEs is often hampered by budgetary constraints and a lack of internal technological expertise." Furthermore, [Barbier \(2020, p. 23\)](#) also states that "the integration of mobile learning in SMEs is often limited by a lack of technical support and difficulties in developing suitable content."

In summary, the implementation of mobile learning in the training process of small and medium-sized enterprises is facilitated by a multitude of advantages it offers. At the same time, this implementation is constrained by several obstacles that constitute major barriers requiring adapted and flexible solutions.

From all of the above, we agree that our hypothesis No. 2, which stipulates that several enabling and constraining factors condition the integration of mobile learning into the training process within the company, is confirmed. The results of this analysis are confirmed by other previous studies, notably those of [Tasseto \(2017\)](#) and [Diaz \(2015\)](#).

The effects of mobile learning on employee performance are presented in the next section.

Effects of Mobile Learning on Employee

Performance Mobile learning represents "a powerful lever for improving employee performance by allowing them to learn in the flow of their daily work" ([Casanova, 2017](#)). It not only contributes to capacity building that leads to performance within companies, but also protects employees from the devaluing effects of technology. As such, it is necessary for every company to think differently about training and integrate it into its system.

The results of our research show that the majority of employees in SMEs take online courses via their mobile phones. This means that they practice mobile learning without really realizing it. We can therefore deduce that, far from representing a means of acquiring new skills, it

is a means that allows people to learn anywhere and at any time. This is supported by [Quinn \(2000\)](#) who states that mobile learning is not about delivering lessons on a phone; it is about supporting performance anywhere and anytime. It is therefore a method that facilitates learning and goes beyond the characteristics of space and time.

Given this situation, it seems appropriate to differentiate between mobile learning and online learning (e-learning), both of which are online training methods. Although these two training methods using digital technologies share many common aspects, several key differences distinguish them.

Our research reveals that mobile learning has positive effects for employees. These include:

- Skills development or strengthening;
- Better adaptation to the job;
- Greater participation in the company.

Several authors have conducted research demonstrating the positive effects of mobile learning within companies. For [Combes \(2018, p. 22\)](#), "mobile learning perfectly meets the continuing education needs of employees by offering them short, interactive training modules that are accessible at any time, resulting in a significant improvement in organizational performance." Thanks to mobile learning, employees can develop their skills flexibly and productively, which is essential in the modern professional world and contributes directly to the overall performance of the company.

Along the same lines, [Barbier \(2020, p. 30\)](#) also states that "mobile learning strategies in companies not only strengthen employee skills but also foster a culture of continuous learning, which translates into increased company performance." All of this clearly shows that the use of mobile learning in the training process represents an opportunity for companies.

By integrating both methods (face-to-face training and mobile learning) in a complementary manner, companies can offer their employees a comprehensive and flexible training experience, ensuring continuity that promotes effective skill development and reinforcement.

This analysis confirms research hypothesis 3, which states that mobile learning has a positive impact on the performance of company personnel. These results are consistent with those of [Diaz \(2015\)](#) and [Casanova \(2017\)](#),

In conclusion, asked about the benefits of continuing professional development, one respondent stated that the importance of continuing professional development in the workplace is now well established. For him, continuing professional development has the potential to change and transform employees' attitudes and skills. Indeed, continuing professional development is crucial for maintaining competitiveness and innovation in a constantly evolving market. It allows employees to update their skills, acquire new knowledge, and adapt to technological advances and changes. However, it must be done the right way!

In a rapidly expanding world, corporate training is undergoing enormous changes and must adapt to technological innovations. This is where distance learning comes in. Mobile learning represents a revolution in the field of professional training, particularly within small and medium-sized enterprises (SMEs). Through this study, we explored the multiple facets of integrating this innovative method and its impact on training effectiveness and business performance.

However, it was found that SMEs in Benin are not practicing this new, innovative training method despite the advances in technology. Those that are aware of the importance of training still practice it in the traditional way (face-to-face training). This research therefore attempted to answer the following question: what are the effects of integrating mobile learning on training effectiveness and skills development within SMEs in Benin, particularly in the city of Cotonou? It focused on the overall training strategy of companies and the factors necessary for integrating mobile learning into the training process of SMEs. Given these questions, the objective of the research was to analyze the effect of integrating mobile learning on training effectiveness and skills development in small and medium-sized enterprises.

The results clearly demonstrate that professional training in small and medium-sized enterprises is not what it should be, given the evolution of new technologies. Furthermore, these same results demonstrate that mobile learning offers unparalleled flexibility and accessibility, allowing employees to train at their own pace and according to their own schedule. This flexibility contributes to better knowledge retention and faster and more effective application of acquired skills in the workplace. Furthermore, the use of mobile technologies promotes a more interactive and engaging learning

approach, which increases learner motivation and involvement in the training process. However, integrating mobile learning is not without challenges. It is essential to design content adapted to mobile formats and ensure that SMEs' technological infrastructures are sufficiently robust to support this transition.

Ultimately, mobile learning is emerging as a powerful lever for improving training effectiveness and developing skills within SMEs. Its strategic and thoughtful adoption can profoundly transform training practices, making learning more accessible, dynamic, and in line with contemporary labor market demands. Small and medium-sized enterprises that embrace this technological evolution are better positioned to meet the challenges of competitiveness and innovation in a constantly changing world.

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How to cite this article:

Coovi Cyriaque Ahodekon Sessou, Kamel Arêo Garba, Ibrahim Ousseini Issa and Agoï Arielle Eusébia Medeou. 2025. Effect of Mobile Learning Integration on Training Effectiveness and Skills Development in Small and Medium-Sized Enterprises in Cotonou. *Int.J.Curr.Res.Aca.Rev.* 13(10), 7-19.
doi: <https://doi.org/10.20546/ijcrar.2025.1310.002>