Developing a Strategy and Roadmap for Digitalization

Paper provided by DECP, NHO and PUM, Netherlands Senior Experts to support Employers Organizations in East Africa

Anthony H. Spoor[1]

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Table of Content

Addenda

1 Intro, audience and purpose

Dutch DECP and Confederation of Norwegian Employers (NHO) support Employers Organizations (EOs) in East Africa: Kenya, Tanzania and Uganda. Digitalization was already a long term challenge exacerbated by COVID, which had direct effect on service delivery, especially training services and hence also a derived effect on Employers Organisations income. After consultation with the CEO's and staff members of the EOs DECP and NHO have decided to provide guidance and practical support in the process of digitalization in general and on advisory services and training in particular.

DECP has asked 'sister' organization PUM, Netherlands Senior Experts, to provide expertise on digitalization. This document is the result of consultations between Peter Bongaerts, managing director of DECP, Arnout de Koster, country manager East Africa at DECP, Magnus Ruderaas and Anna Häggblom, both Senior Advisors and Programme Mangers at NHO International Cooperation Programme and Anthony H(arm) Spoor, senior expert and coordinator of the Sector IT Business Consultancy at PUM. Anthony Spoor is the author of this paper and responsible for the content (see addendum 5). In order to understand the situation at the EOs a first inventory of the advisory and training services and the IT assets was carried out.

The audience of the present paper are the board members, CEO's, managers and staff members of the EOs involved in digitalization, IT, customer and member services and advisory and training services.

Digitalisation is a comprehensive phenomenon. This paper is providing a generic overview, some essential insights and is describing necessary capabilities and conditions for success. The focus of the paper however is on how each of the EOs can develop a global digital strategy and roadmap to guide and invest in digitalisation in the next few years. The information and knowledge presented in this paper can be complemented by coaching of the EOS individually by an expert of PUM Netherlands Senior Experts if required.

The paper is kept relatively short because there is already a lot of written material on digitalization and digital strategy. Notably:

- Agidius Foundation/Dalberg Advisors, Digital Delivery. A Digitalization Guidebook for Enterprise Support Organizations, March 2021
- ITCILO training on digitalization of training and e-learning and forthcoming guide

More reference material can be found in the literature list at the end of this paper.

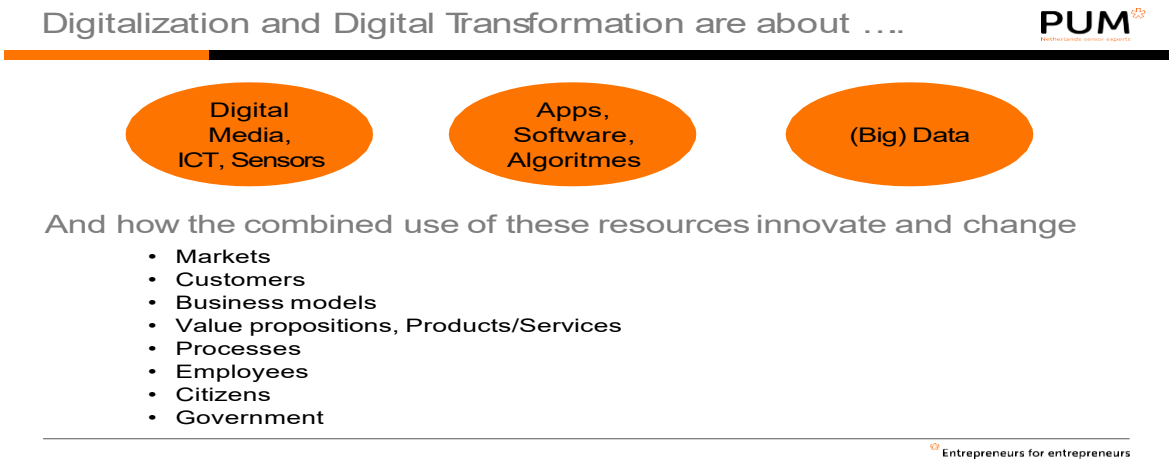
2 Questions answered in this paper

- What is digitalization, why is it important?
- Awareness, vision and strategic weight
- Understanding critical capabilities and conditions
- Developing a digital strategy and roadmap
- A growth model for digitalization and online services of the EOS
- Some additional remarks on digitalization of training services

For further details some addenda have been added at the end of this paper:

1. Literature list on digital strategy and e-commerce
2. The basic architecture of digital business models, products and services
3. Components of a systems and solutions architecture for the EOs
4. How to select and implement a system or software solution?
5. Profile and contact details of the author

3 What is digitalization, why is it important?



Information technology is developing rapidly: Internet, web based applications, cloud, artificial intelligence, Internet of Things, Vitual Reality and a wide range of increasingly powerful devices fuel digitalization. It is taking place everywhere, allowing businesses to innovate products and services and business processes to better serve customers often at lower cost. 'Digital' creates new market space and might disrupt existing businesses and business models. Examples: Netflix and HBO taking over 'television', Amazon and Alibaba taking over 'shopping', the big IT providers like Google and Apple taking over payment and (some) banking processes and massive open online courses (MOOC's) in higher education taking away many students from regular courses.

So it is important to observe and interpret what is happening around us and especially in your industry. Where is innovation already taking place? Not reacting might result in loss of customers, market share or eventually of the entire business. Moreover digitalization offers opportunities to better contribute to social objectives like durability and inclusiveness.

Digitalization is a broad phenomenon that is affecting how people live, communicate, work and how businesses and even governments are organized. During the pandemic 'the distancing economy' has accelerated, but the process of digitalization was already taking place. People now got used to video conferences, to Zoom, to Teams and to all kind of new apps that facilitate sharing data, documents, communications, meetings and creative sessions.

In a digital world customers are more powerful, offerings of different services providers become transparent through the Internet, customers can search and compare and choose what he/she likes best or what is recommended by others. So EOS should evaluate their mission, their customer value proposition, their offering of products and services.

How do members/customers feel about your services today and how could you improve their experience and become more engaging. Which customer pains can we eliminate (like having to travel to attend a training) and which gains (like becoming 'time independent') can we create by applying new technology and transforming our services to digital, to digital trainings, to digital advisory? How can you help your customers or members best, what 'jobs' can you do for them?

Advisory and training services as they are now delivered by the EOS will maybe disappear as a result of digitalization and be replaced by blended/hybrid or even completely new digital services in the next 2 to 6 years. Translating existing face-to-face advisory and training services and processes into 'digital' allows you to do old things differently and to do completely new things and become more effective and efficient. Examples: e-training can make personalization possible and allow learners to follow their specific interests and create individual learning paths through the content. Or, each topic can interactively be assessed

before the learner can move to the next topic or learning goal, increasing depth and effectiveness of learning.

Digitalization will include the customer facing processes and interaction with the customer. So can the customer find your services on the Internet, find his/her way to your website for further information, can he/she securely leave personal information on your digital platform, get answers to their questions, inscribe for a training, pay on your website, do tests and assessments online? Can certificates be delivered digitally and can the customer leave his/her opinion on the training on your website or training platform? And how does the customer experience these online activities? Can these activities be carried out easily or does the customer feel hindered and will he/she leave the website without completing the transaction?

Digitalization offers new opportunties to collaborate or dialogue with customers on products and services too. How they are designed and how they could be improved or even innovated. Involve your customers in testing new services before you launch them. Digitalization enables co-creation with your customers/members and can enhance their appreciation for and loyalty to your organization.

Digital business depends on data, companies become more datadriven. Data of members/ customers, their company and business profiles, the services they use or buy from you and how they value these services, sometimes called a 360° view on your customers. These data are important for marketing, sales, payment, service delivery and evaluation. They allow market segmentation, micro targeting of customer groups and smoother, cheaper operations and enhance service quality and perception.

Data however are also the basis for customization and personalization of information, advisory and training services, an advantage of digitalization that should not be underestimated. Examples: you might advice certain customers/members to apply for a grant if they meet the conditions or you can notify customers on information, new laws or regulations which are relevant for them.

Digitalization requires investments in data, profiles, applications/systems, like a CRM system, databases, e-learning platforms and 'office' and BI (business intelligence) tooling to have the data available, support business processes and make the right decisions. By analysing the data in different databases you might detect certain relations in the data and take action based on these relations or correlations. Suppose in industries where there is no collective (labour) agreement conflicts over wages are more common. You might offer special advice to those members on how to prevent conflicts on wages.

Digitalization also requires a lot of new capabilities, resources, competences, knowledge and skills to take advantage of the new technology and get 'digital' started. Think about developing webinars, e-learning programs, workflows for advisory services, managing new systems and databases, working with tools like Zoom, Teams, BI-tools, etc.

Digitalization and digital transformation are complex and difficult because there are so many facets and things to take into account and to manage. That is why the transformation is also a learning or growth process, not something that can be completely designed upfront.

Effectively dealing with digitalization always is about four (different) things:

- Awareness, vision and strategic weight of digitalization
- Understanding capabilities and critical conditions
- Strategy, planning and roadmap
- Design, develop and deliver through (pilot) projects for advisory and training[2]

[2] Not completely covered by this paper. See however addendum 4 on 'How to select and implement a system or software solution'.

4 Awareness, vision and strategic weight

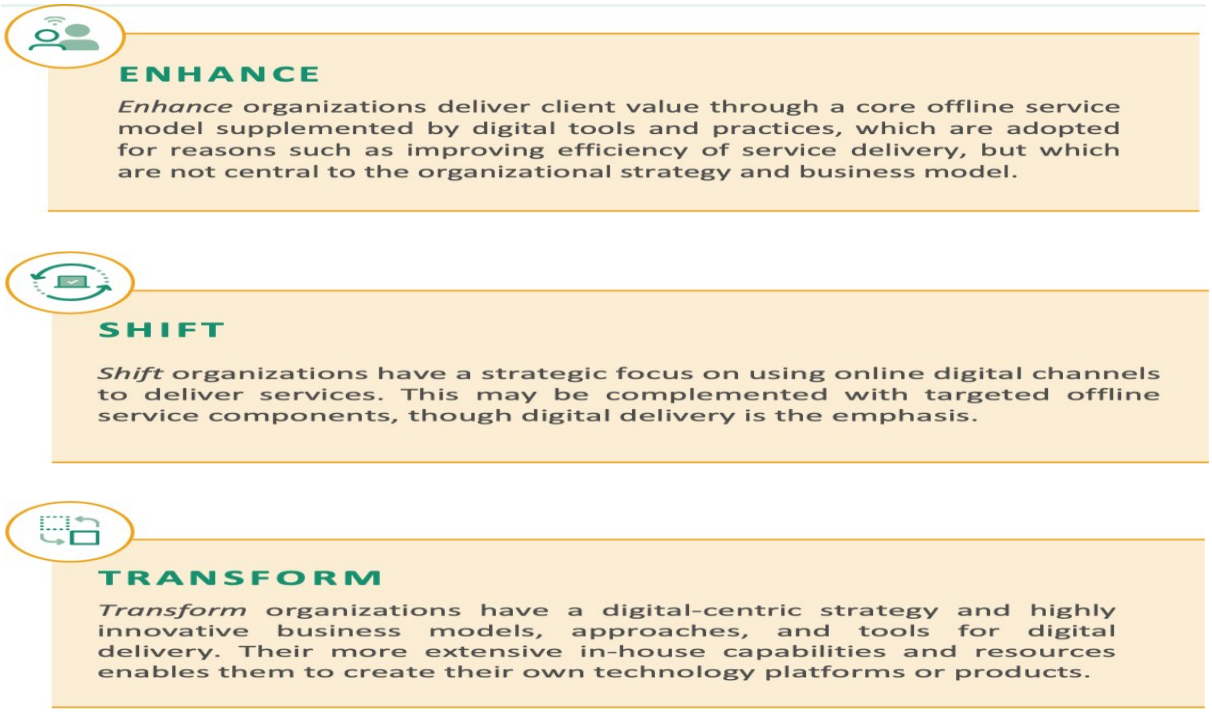
Managing digitalization starts with creating awareness, understanding the phenomenon and formulating a vision on digitalization specific for your organization.

What is happening in your world? How is new technology changing advisory and training services? Which new initiatives are your competitors or other businesses taking? What do your customers need, want? Are they ready for digitalization? What does this mean for the services you provide to them?

In order to mobilize and get your organization on the path of digital transformation you need some kind of vision. Imagine how your business will look like in three years time. How will digitalization help you to innovate your business, to better serve your customers and to do so more efficiently?

The changes expected or already taking place in your industry dermine the strategic importance (weight) of digitalization for your organization as well as the degree of innovativeness required. Three exemplary situations are distinguished in the Dalberg report[3] mentioned before:

- Enhance the business
- Shift the business
- Transform the business



Our understanding is that for the EOS concerned the options 'Enhance' and 'Shift' are more relevant than 'Transform'. This means there is room for gradual change, transformation and learning. Radical transformation of existing (offline) business models seems not required yet.

So a crucial first step on digitalization is formulating a vision. Which strategic weight does digitalization has for our organization, how innovative or ambitious do we have to be and how much time can we take to adapt and change our business, products/services, business processes, staff and IT?

[3] See page 10 of the Dalberg report for further information on these three exemplary situations (called 'archetypes')

Depending on the situation ambitions can be made more explicit. Suppose one of the trends is your customers increasingly want to take courses whenever they need them and wherever they are. In that case setting 'objectives' like half of our trainings will be webinars and 20% will be e-learning courses in three years time might be appropriate.

Vision on digitalization should come from and be supported by top management. Of course this vision will be closely related to your organization's mission and business strategy. But rapidly developing information technology might also influence the business strategy itself, like the services provided to the customers/members or the 'ecosystem' and partners you need to realize the digital options. Digitalization will often require new forms of collaboration and partnerships.

5 Understanding critical capabilities and conditions

The second step in thinking about digitalization is about your present IT and digital capabilities. Are you able to develop and deliver new digital/online services like webinars and e-learning programs? Are the necessary IT systems and infrastructure available? Can you do so alone, or do you need help of an external consult or do you need to partner with other organizations?

Think about your actual website, members portal, member administration and IT systems, like CRM, financial accounting system or online catalogue (and pricelist) of your (advisory and training) services. Are these systems in place and working well? Are you able to manage these systems properly yourself? Can you make data selections and analyse the data by means of a BI-tool? Is there an ICT manager (or CIO), a webmaster, someone responsible for the CRM system, for the financial system? Is there an IT helpdesk where users/members can ask questions on office tools and applications or report problems? What about the IT infrastructure like local networks, servers and work stations? Are these systems secure, are data safe, are access rights managed? Is there already some experience with online services and solutions? E.g. can members inscribe on or buy services on the website/portal, make appointments with advisors, or pay digitally?

In other words what is your level of IT and digital maturity? If you answer most of the questions above negatively your are not yet in a good position to embark on a digital journey. You better invest in some of the critical resources first:

- set up or improve the basic systems landscape and functionality described above[4]
- an ICT manager or CIO to advice on digital strategy, take care of execution and manage IT resources and assets
- a webmaster managing the corporate portal and members site
- persons responsible for management of different applications, IT systems and databases
- someone in charge of the IT infrastructure and security (if it is not outsourced to a third party)
- an IT helpdesk to support users of office tools and work stations (if it is not outsourced)

If most or all the answers are positive, your digital maturity is more advanced. Still new competences to develop webinars, e-learning courses, manage an e-learning platform or design workflows for your digital advisory services might be needed. But these can be acquired 'on the flow.'

In determining your digital maturity level you might also refer to one of the levels described in the generic growth model for digitalization of the EOS in paragraph 7 of this paper.

Digitalization not only requires vision and top management support it also requires investing in IT and in new competence and resources.

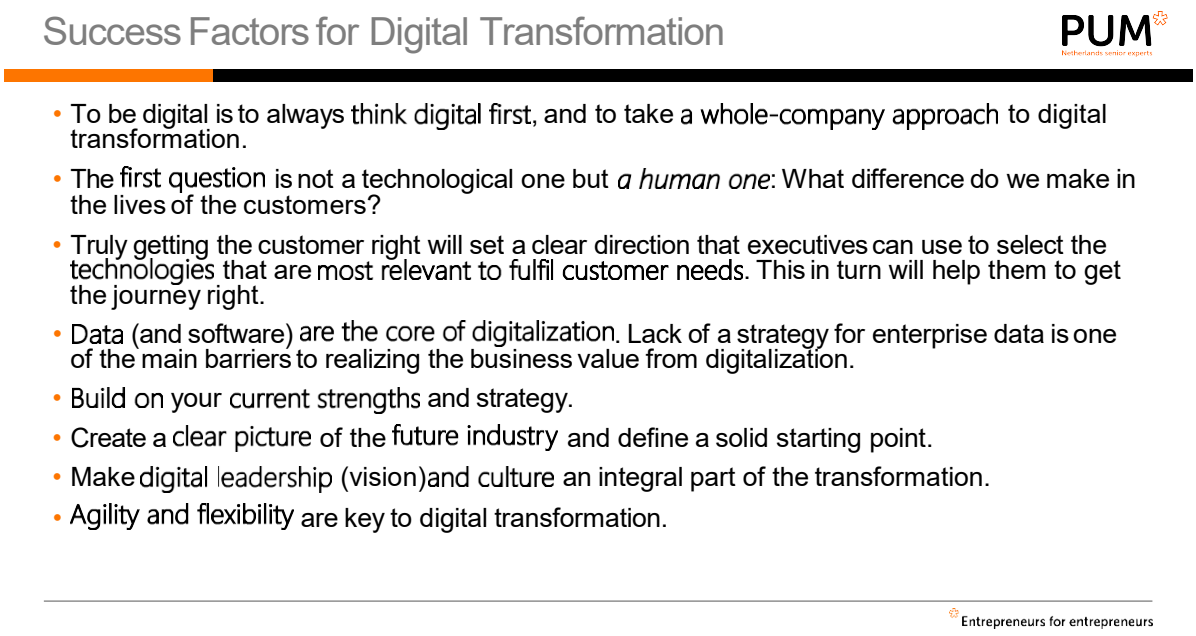
[4] See addendum 3 of this paper on the components of a systems or solution architecture for the EOs. A useful description of part of the 'basic systems landscape and functionality' can be found in the Functional Requirements Document on the Web-based Member Services Portal of the Federation of Kenya Employers (FKE) of March 2021.

Gartner, an IT research organization and IT trend watcher, provides the following overview of success factors for digitalization. See slide below.

Some of the success factors have already been discussed in the previous text, others will be discussed in the remainder of this paper.

Three things that stand out are:

- Build on your current strengths and business strategy
- How can digital services improve the lives of our customers? How can it take away 'pains' they actually experience when using your present offline services?
- Do we have the data, software and infrastructure right?



6 Developing a digital strategy

So digitalization is complex, success depends on many different things. Although you might just start a project to digitalize a training say on labour law and transform it into a webinar or an e-learning course and learn from the experience, we would rather recommend you to develop a global 'digital strategy' first and create a compass for your digital journey that way.

A digital strategy should answer <u>three basic questions</u>:

1. Which products and services will be transformed into 'digital'?
2. Which new capabilities, processes, resources, IT landscape/systems and budgets do we need?
3. What is our roadmap? Which projects and activities will we carry out and when?

A digital strategy should be business driven; take the (digital) customer value proposition as starting point. A strategy should offer insight, create overview and 'a point at the horizon', answer the question 'where are we heading for'? It's not a blueprint of the future, it should be lightweight. A strategy will allow us to communicate our vision, objectives and roadmap to the organization as well as to our customers/members, partners and suppliers. Inspires everyone to take action in set direction.
It will help us determine priorities, to 'do first things first'.
A digital strategy is not written in stone, it should be review regularly against progress made and be revised if circumstance change or learning reveals some aspects simply don't work.

Effective management of digital transformation requires a so called 'agile mindset' to planning, doing/implementing change and learning. See the learning cycle below and the Gartner slide on success factors on the previous page.

A digital strategy might consist of the following components:

a. a baseline of the actual situation in your organization including the use of IT[5],
b. a clear view on what is happening in your business, how is it changing,
c. who your customers are and how online services can improve their lives,
d. a vision on digitalization of your services. How important is it for the EOS and what degree of innovation will it require: 'Enhance', 'Shift' or 'Transform' the business (see paragraph 4),
e. a set of objectives and a 'point on the horizon' describing globally the envisioned 'to be' digital products and services, service environment and required 'to be' systems architecture or landscape
f. a list of the new capabilities, (front end & back end) processes, IT systems, infrastructure you need to acquire, including the make or buy decision[6],
g. an idea of the funds you can invest in digital transformation over time, and last but not least
h. a portfolio of projects to be executed in the next few years plotted on a roadmap[7].

A very complete treatment of the strategy process can be found in the Dalberg Digitalization Guidebook. This guide is very comprehensive, so choices will have to be made about the requitred 'depth' of your first digital strategy.

The strategy process is a responsibility of the Executive Board. Business staff should be in the lead, although you will need an ICT manager to help you decide on the opportunities implied by new technology and software, execute the strategy and manage the IT resources and assets.

It is best to work with a small team. Make a planning who will do what and when to get the deliverables (a) to (h). Plan a series of interactive workshops to discuss and approve the deliverables. A PUM expert can offer support and coaching in this process of digital strategy development if required.

The end result might be a document or a Powerpoint presentation. The digital strategy is your compass and progress can be reviewed every quarter by the Executive Board.

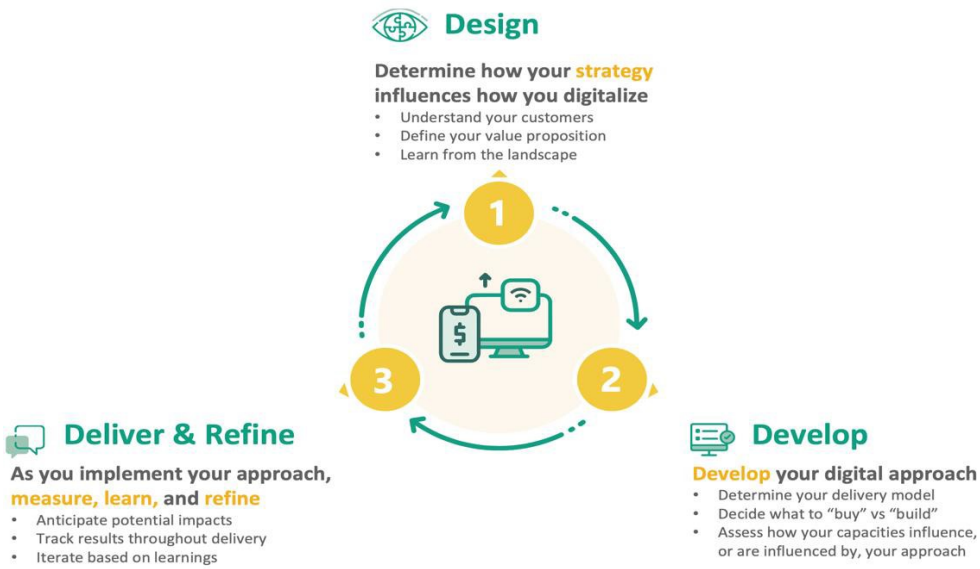
To summarize the proposed strategy and change management process:

- The first step has to be made by the Executive Board: establish a vision on 'digital'
- The second step will be made by a team of business and IT staff: develop a business driven strategy for digitalization
- Feedback and decisions by the EB
- Business and IT staff design, develop and execute (pilot) projects
- Evaluation of projects, when positive: scale up
- When scale is 'complete' – after projects: focus on maintenance, security, privacy

[5] Part of this baseline is contained in the inventory made on advisory and training services and IT in the first months of 2021 by the EOS in Uganda and Tanzania. A baseline however also contains some evaluation of strengths and weaknesses and a statement on 'digital maturity'. This should still be added by the EOS themselves.

[6] See the Dalberg report p 34 on the make or buy decision. For the EOS lacking IT staff buy will be a more realistic option than make/develop. Many components of the required IT landscape can be hired 'in the cloud' nowadays.

[7] The portfolio contains the envisioned projects to be executed to develop and/or obtain the digital products/services, capabilities, processes, IT systems and infrastructure mentioned in points e and f. The portfolio should at least contain the projects to be executed to realize a next step in digital maturity in say one year's time. Also see paragraph 7. The projects should be prioritized according to business value, while also taking interdepencies into account. Basic functionality shoud be created first, so that other projects can build on that. Estimates of cost should be included, but can be refined later.

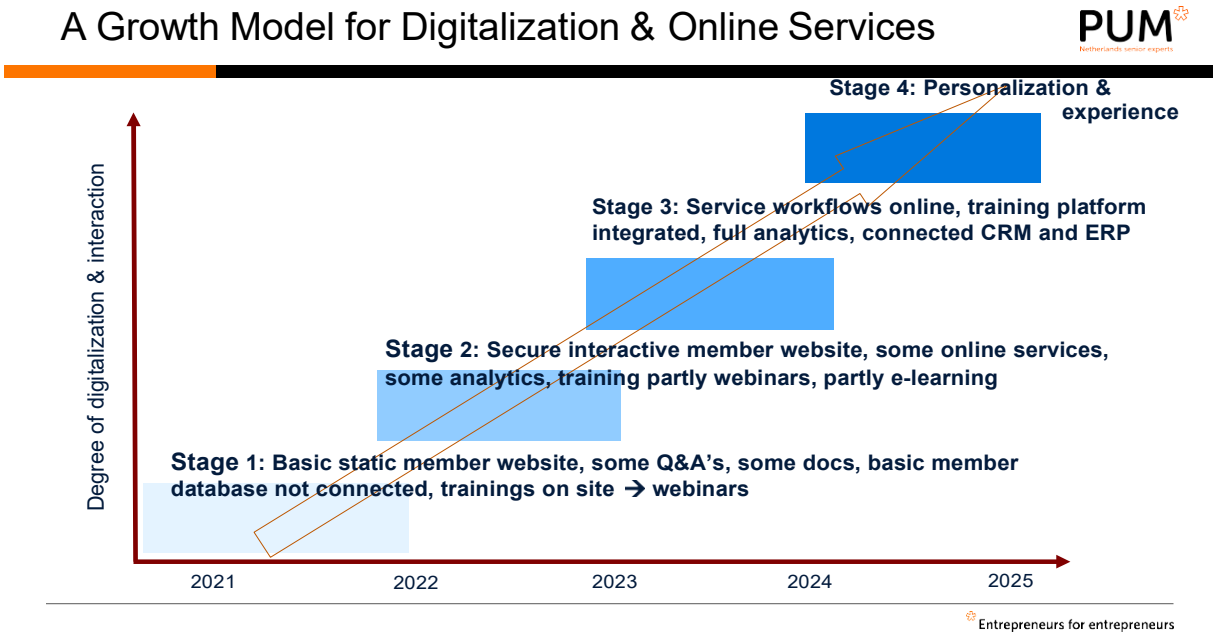


In fact the philosophy we would like to promote is THINK BIG, ACT SMALL. It's important to know where you want to go. The road to achieving your objectives however always starts with taking a first step!

7 A growth model for digitalization and online services

We can distinguish a few generic ambition and solution levels for the EOS concerned depending on the digital strategy you choose, ranging from few digital services and processes, easy to implement and relatively cheap (1) to full digitalization of services and processes, complex, innovative and expensive (4). These levels can somehow be associated to the strategic weight of digitalization ranging from 'Enhance' via 'Shift' to 'Transform' as discussed in paragraph 4. See the graph below.

These ambition and solution levels are indicative and not a scientifically substantiated, conclusive growth model for digitalization. They are included to give some reference framework to EOS to determine where the actually are (see 'baseline') and how they might grow over time, moving from one level to another.



In thinking about the steps you might want to take to further digitalize you services and business processes you can consider the following actions. This is the kind of actions you might put on your digitalization roadmap. The actions are examples. You can and should of course taylor the steps according to your situation, possibilities and ambitions. The actions with higher numbers will lead to more advanced stages of digitalization as shown in the growth model above.

1. Enhance the website/portal with questions and answers (Q&A), providing answers to the most common advisory questions, e.g. about labour law. Put downloadable information and documents on the site. This will take pressure off face-to-face communications. Chat might be added to facilitate easy and quick communications with te customers/members.

2. Apply Skype, Zoom, Teams or any other tool for videoconferencing and e-meetings between EOS staff/consultants/trainers and member organizations. This might be very useful for many (unstructured/free format) advisory services, but trainings can be broadcasted this way as well. The tool is applied to connect them and facilitate interaction. A platform like Hopin (Hopin.com) will even bring you in the world of digital venues, digital seminars and exhibitions, combining group sessions, presentations and individual appointments and chats.

3. An alternative for trainings is to put them on audio or video (basic podcast or webinar) and apply e-mail or chat functionality for (asynchronic) interaction between trainees and trainer. Of course the effectiveness of the trainings mentioned under (2) and (3) will depend on the quality of the courses themselves. Digital media as such will not add much value, except that the training becomes time independent for the users and can be repeated more easily.

4. Transform suitable advisory services into a workflow, describing actions to be taken on the side of the customer and the consultant, procedures to be followed, information required, etc. to better support and monitor execution of these services. This will still require (digital) human interaction, but is a step away from unstructured/free format advisory services and might improve quality and efficiency.

5. Transform a training into a structured e-leaning course applying the functionality of an e-learning management system. This will require rethinking the pedagogy/didactics of the training and applying tools to facilitate interaction between participants (like discussion groups), quizzes, assessments, individual learning paths, etc. An e-learning management system will support development, storage/retrieval and management of e-learning modules, including course planning, admission, assessment and certification.

6. Build a digital knowledge base containing searchable information and routing the user via a user profile, search and questions and answers (eventually applying artificial intelligence) to the appropriate information or cases. This knowledge base might contain law, regulations, jurisprudence, case law, annotations, HR cases and other expert information. The knowledge base can be entered via the website/portal and is accessible after authentication of the users. Like e-learning these knowledge services can have a price and payment can be managed though the platform.

8 Some additional remarks on digitalization of training services[8]

The E-learning course on digitalizing training services from ITCILO is very comprehensive and contains all actual knowledge on digitalizing learning from education science. It is also an example of how a good e-learning course looks like, with explanation, video, polls, small tests, and interactions.

[8] Text of this paragraph is written by PUM expert Albert Visser

It might need some adaptation to the African culture and training standards. A good example of a course on a specific business topic is the course on Digital Marketing specially for women that lost their job after COVID-19 by Glaxotech eLearning in Kenya. This is not only a course on e-marketing, but also an example of getting a job in the new 'GIG-economy'.

It is recommended to ask trainers themselves to translate the content of 'on sight' trainings to either webinars or e-learning programs preferably by means of an e-learning platform. In Africa universities and schools are more and more making use of Moodle, an open-source platform, with a large community, free MOOCs (massive open online courses) to teach teachers and a lot of experience in the direct environment. There are more open-source platforms like Google classroom. For more information see the training course from ITCILO and the references in de literature list.

It is important to note that the shift to just e-learning should not be the ultimate goal. The quality of learning increases when there is also a considerable face-to-face component. This leads to a form of learning that is called blended learning, which is a mix of e-learning and face-to-face learning. Collaborative and peer learning can also be part of blended learning programs.

An important difference with traditional learning is the way you test, and students make exams. In blended learning there is space for peer reviews, for formative testing, but summative testing is very complicated. Often you need special software to do this for testing and for CRM. When you practice blended learning, the testing can still be a classroom activity.

The preferred way to start digitalizing training services is: pick a small topic for a pilot. Let all who have a minimum level of IT skills and are willing to do so and also get full support from their manager do the pilot. Do it SMART, time-bound, and present this to staff and make a thorough evaluation. This pilot is not just simple translate a course in a digital format, but redesign you course with the same goals and objectives into a format that makes full use of the possibilities of digital learning. When the pilot is successful, you can scale up, to three more pilots and do this before all training programs will be transformed.

Addendum 1: Literature list

Digital strategy

Agidius Foundation/Dalberg Advisors, Digital Delivery. A Digitalization `Guidebook for Enterprise Support Organizations, March 2021

Federation of Kenya Employers (FKE). Functional Requirements Document on the Web-based Member Services Portal, March 2021

DECP and NHO, Draft Terms of Reference document: "Need or nice to have. Guidance for the introduction of digitalization of training and advisory services in EO's in East Africa", 2020

Gartner Research, "The IT roadmap for digital business transformation", 2020

PUM, Harm Spoor, "Workshop Successful Digital Transformation; Innovation and customer value creation in an increasingly digital world", September 2019

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elearningindustry.com, "The best learning management systems top list", 2020 update

bl.curriculumdevelopmenthe.eu

https://www.easygenerator.com/en/how-to-create-e-learning

E-commerce

Gartner Research, "Jump-Start Your E-Commerce Platform in 3 Steps", 2019

Gartner Research, "Top 10 Trends in Digital Commerce", 2019

PUM, Sector IT Business Consultancy, 4 webinars on E-commerce and Digital Marketing, 2021

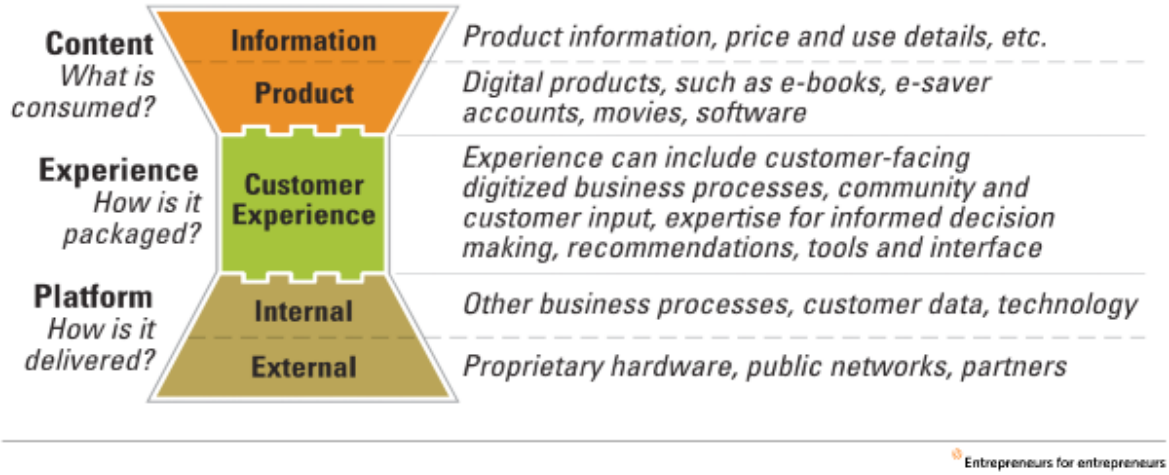
Addendum 2: The basic architecture of digital business models, products and services

A digital strategy should address the components of a digital business model and digital products and services. See Weill and Woerner, 2013. This article is still worth reading!

Components of your Digital Business Model

PUM

The three components of your digital business model — content, experience and platform — work together to create a compelling customer value proposition.



Entrepreneurs for entrepreneurs

The model above shows what is required in digital business models and products/services: (1) content, (2) customer interaction or experience and (3) a digital platform, composed of business processes, data, software, networks and hardware. When thinking about digitalization you should pay attention to every layer, not just to the technology.

ASSESSING YOUR DIGITAL BUSINESS MODEL

Use the following questions to help you and your colleagues prioritize the improvement to your digital business model.

	TODAY: Rate your business today in each of the three areas on a scale of 1 to 10, where 1 = "Does not create business value," and 10 = "creates significant business value."	**THREE YEARS FROM NOW:** Given the issues, rank (1, 2 or 3, with 1 being most important) the importance of each of the three areas for success in your business in three years.
Content: *What is consumed?*		
Experience: *How is it packaged?*		
Platform: *How is it delivered?*		

If the average of your scores on the first question today is seven or below in any area, here are some questions to help you work on refining your digital business model.

Content

- How much of your revenue is generated online?
- Of the content you provide today, what do your customers find most valuable? What other content could you provide that customers (or channel partners) would value or pay for?
- Who has responsibility for content in your enterprise? Is responsibility for digital products and information about physical products held by different groups? Should it be?

Experience

- Do you know how good your customer experience is? Who owns it?
- What aspects of your digital customer experience do customers like? What aspects do they find frustrating?
- Who has the best customer experience in your industry? (Consider both traditional competitors and new entrants.)

Platform

- How good are your internal digital platforms? Who owns them?
- How can you expose more of your internal digital platforms to your customers to improve their experience?
- How can you better leverage the market for your platforms — for example, the cloud, software as a service, partners, external data?
- How good are your partners' platforms?

Below we shall describe the components of the Digital Business Model for the EOS.

<u>Content layer</u>

In case you want to transform an on site training module into a webinar or an e-learning module you start with the content layer. What is the target audience? What is it the customer wants to learn? What are the learning goals? Is it about knowledge, about skills? How is the content structured? Is it understandable, logic, appealing? Are there graphs, pictures, examples, cases, videos, questions, quizies, tests/assessments, feedback to the user? There are many things you should think about before you have a good webinar. E-learning is even harder. See paragraph 8.

Experience layer

The experience layer is also very important. How is the content packaged? How does the user interface look like? How userfriendly is the interface? Are there any tools for interaction with other trainees, with the teacher or other experts? How good or bad is the customer experience? If you don't offer an appealing experience it will feel like checking out on a webshop after ordering or paying failed. So think about the design of all the (customer facing) process steps of your webinar or e-learning module. Start with the awareness, decision/inscription, payment and onboarding phases, than move to the content and finally to the assessment, the certification and evaluation phases. Every process step should be well thought out and offer the right experience. A customer well served will maybe recommend the training. The best thing you can get to promote it to other customers.

In an increasingly digital world many or all of the customer facing processes mentioned above will also be digital. So can the customer (1) find your services on Internet, (2) find his/her way to your website for further information, (3) can he/she securely leave personal information on your digital platform, (4) inscribe for a training, (5) pay for a training on your website, (6) do tests and assessments online, (7) can certificates be delivered digitally and (8) leave his/her opinion on the training on your website or training platform? And how does the customer experience these online activities? Can these activities be carried out easily? Can you create digital collaboration with your customers, taking them seriously, giving them influence and adapting products and services to their suggestions and needs?

Platform layer

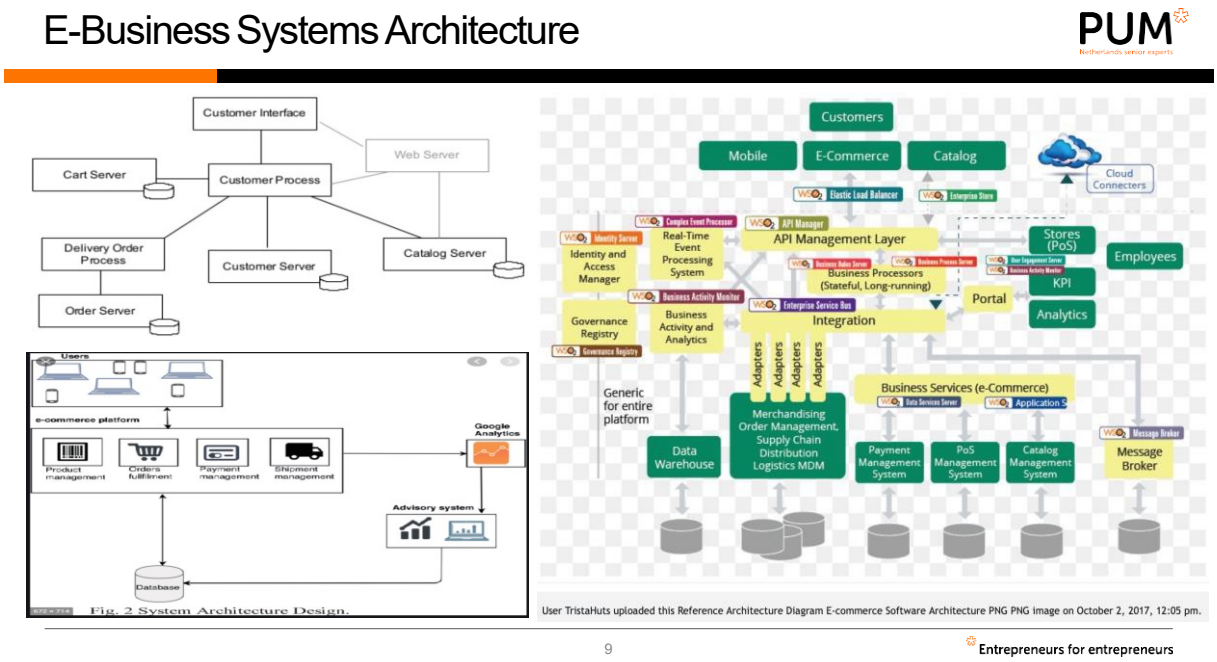
Finally the platform layer. How is it delivered? Maybe this layer is most associated with digitalization. It's about hardware, networks, databases, software applications, and websites/portals. Also about the basic data, like customer data, training data and training content. So depending on the how ambitious the plans for digitalization are you need simple or more advanced solutions to be able to deliver the services and automate the processes. Designing the set of soltions requires some architectural thinking: which components are necessary and how are they related? A systems architecture is a blueprint of what is needed and helps in obtaining the right components and connections. It also helps to communicate with suppliers and decide on sourcing of the solution components. The platform layer can be in house, but nowadays many or even all components can be 'as a service', which are hosted by external parties in the cloud. Platform-, Infrastructure- and Software as a Service are some terms that are relevant in this respect. There are many companies that provide this kind of services. Think of names like Google, Amazon Web Services (AWS), Apple, Microsoft and IBM. But there are manymore.

In the next addendum components of a systems of solutions architecture for the EOS will be described.

Addendum 3: Components of a systems or software solutions architecture for the EOS

A digital strategy should also provide the envisioned high level systems or solution architecture for the EOS. That means which systems do we need to realize the digital service ambities experessed for our customers/members.

Depending on the ambition levels/growth stages these architecures can be simple (see left in the slide below, to be associated with the lower ambitions levels in the growth model) or complex (see right, to be associated with the highest ambition level and above in the growth model).



In the (basic) systems/solutions architecture the following component of a systems or applications could be relevant:

<u>Corporate website and members portal</u>

- Corporate website, with mission, vision, services of the EOS, frequent Q&A's, how to become a member, news and contact us. Eventually option to download some reports and papers
- Members portal with secure login, member data/profile, renewal of membership, change customer profile, subscribe to or order products/services digitatally, inscribe for events, trainings, make appointments with staff members/advisors and pay digitally
- Catalogue and pricelist of products and services available on the members portal
- Content management system for content on the website and members portal. Example: Drupal, Word Press
- E-commerce platform like Woo-Commerce and Google Analytics to monitor 'traffic'. Can supply part of the functionality of the corporate website and members portal including the content management part

<u>Back office systems</u>

- Financial system incl Accounts Payable and Receivable. Interface with members portal en payment services

- CRM (Customer Relation Management) system with member/customer data and profiles. Interface with members portal required. Examples: Sugar CRM, Odoo CRM
- HRM (Human Resource Management) system with advisory and training resources, like trainers and advisors and their profiles. Interface with members portal and eventually with project or case management system
- ERP and/or Order Management system. Optional depending on needs for inventory management, warehousing and shipping of goods etc. Examples: Odoo ERP, MS Dynamics
- Project or case management system to define projects and manage advisory cases. Optional, depending on needs

Training and advisory systems
- E-learning platform like (open source) Moodle for development and management of e-learning trainings and content
- File system or (content) database with advisory cases and reference documents
- File system or (content) database with training programs and reference documents

Office tools and Business Intelligence (BI) systems
- Office tools like MS Office, Outlook (e-mail, contacts, agenda), Teams, Zoom, chat programs, document management, like MS Sharepoint, etc.
- BI tooling, like MS Power BI, Qlik or Tableau to generate management information and other reports on data in different systems and databases or from the datawarehouse
- Datawarehouse containing copied data from operational system and databases for the purpose of BI. Will only be needed at quite advanced levels of digitalization

Data quality and Interfaces connecting different systems/solutions
- In order to keep quality of data high it is recommended to apply the principle ‘store once, use many times’ as much as possible. Example: customer data will be registered in the CRM. In order to be able to use the customer data in other systems ‘interfaces’ need to be developed between the database of the CRM and the other systems, like the members portal or the accounts receivable system (part of the financial system). At a technical level this can be done in different ways. Explanation of the solutions available is not part of this paper.
- Quality of data will also benefit from assigning responsibility for data to staff members in the EOS organization. So who will be responsible for customers/members data, for data on human resources, for data on trainings etc? The ‘owner’ of the data should define the data (records) and develop procedures to keep the data in good condition, e.g. who is allowed to register, to change and to delete data?

Addendum 4: How to select and implement a system or software solution?

In the (target) systems achitecture for an EOS we define what we need in the longer run, 'our point at the horizon'. It shows information systems, applications, apps, databases, tools and how they relate to eachother, including required 'interfaces'. Of course this is a high level picture, defining business functions and/or generic components, not detailed requirements. Depending on your digital ambitions the landscape will be 'simple' or more complex. See addendum 3.

How can you fill in the envisioned systems landscape with concrete solutions if the systems architecture doesn't provide enough guidance yet? Which steps to take to define, select or develop a solution[9], application or mobile app? In general the following steps can be taken:

1. Describe and analyse the business processes concerned, like become a member or onboarding for new members or paying membership fees[10]
2. Derive and describe the functional requirements or user stories, like the steps in the process of becoming a new member and defining the data required
3. Define the non functional ('technical') requirements, like expected performance, availability, integrity (e.g. security/privacy constraints) and adaptability of the system (e.g. through parametrization or available API's) and technical standards to be met, like 'open source', SaaS (see footnote 10), or a certain type of database the organization has chosen as standard
4. Make a list of both types of requirements
5. Select a number of software providers that might be able to meet your requirements[11]. Ask other users of the software what they think about it. Ask if you may have a look at how it works in their company
6. Send the selected softeware providers the list and ask them to indicate which requirements are covered by their solution or software package and which are not
7. Check the reply in a demo of the solution or in more elaborated use cases/'proof of concepts' (with data provided by your organization) by the software provider at your premisses. Find out if and how it works in your situation simulating some of your processes
8. Engage in contract negotiations, find out prices, conditions, service arrangements, like support for implementations or taylor made additions[12]
9. Make a choice based on functional and non functional fit, economic conditions and implementation support offered. Sometimes you need to find an implementation partner because the software provider doesn't support implementation themselves. This is quite common for the big providers like Microsoft. They have certified implementation partners

[9] We don't recommend the EOS in East Africa to consider developing own solutions through a (local) IT service provider. This might seem beneficial because of low local wages, but in practice this is not wise to do for an organization with little experience with IT and software. A notable exception on this advice might be the members portal and the members administration. When choosing a software package it is important to look at the track record of the provider: experience in the industry concerned, number of clients, economic outlook. In a way the software provider is more important than the software. You want a stable relation, a provider that is able to provide services over a longer period.

[10] Describing and analysing business processes might lead to the conclusion that the process involved is not working well (not meetng the business objectives) or not efficient (e.g. too many steps). In that case it is wise to redesign the process before writing down the systems requirements.

[11] Nowadays most software is web based and running in the cloud, 'software as a service' (SaaS), which means you connect the workstations and other devices in your organization to servers of the software or cloud provider by means of networks and Internet and work on the application through a web browser (like Internet Exporer or Google Chrome). Your data will also be in the cloud, which might require extra attention because of official and security requirements. Of course it is also possible to have the software on premise on your own servers, but that type of solutions will require more internal IT staff and special attention to security and business continuity.

[12] Avoid changes or taylor made additions to the software as much as possible. These additions will be expensive and will make future migrations to new versions of the software more difficult. It is better to change your business processes and to adapt to the software.

10. Sign the contract with the software provider and/or with the implementation partner
11. Start the implementation process. Make sure there is a group of business (like key users) and IT people inside your company who can work with the software and/or implementation partner
12. Arrange (internal) ownership of the solution, of the data concerned, establish procedures for use and maintenance (changes) of the software, train the users, start working with the solution

The sequence or planning you follow in filling in the systems architecture is determined by your ambitions and roadmap. See paragraph 6.

The requirements document of FKE mentioned in footnote 4 is a good example of an analysis of business processes and description of requirements.

A last word on the organization of software selection and implementation. Compose a multi disciplinairy team consisting of business (process) owners, key users and IT staff. Business staff should be in the lead when thinking about their processes and how to support, redesign or automate them. IT staff should ask questions, check answers and make suggestions. It might also help if IT staff shows how software solutions work or organize demo's based on uses cases of the EOS. In the end however business and IT should agree the process will work fine if the requirements are realized in a software solution. The discussion is always about effectivity (will business or process objectives be met) and efficiency (at lowest effort or cost). In case of customer focusing processes, like on the members portal, user/customer friendliness and experience also plays an important role. See the paragraph on customer experience in addendum 2.

Selecting the right solution for (a couple of) business processes is always a compromise between 'best functional fit', 'best technical fit' and 'best economic fit'.

Implementation of a solution doesn't only imply getting the processes right and training the users, it also implies getting the data right. If you don't use an automated system yet, you should arrange conversion of data on paper or from 'excels' to digital data in the system. If you replace an existing system by a better solution you have to take care of the conversion of the data to the new system and the formats and structures required by that system. In such a situation preparation of data conversion is best organized in a separate project, clearly allocating responsibilities to business and IT staff involved.

Depending on the business processes and the data involved it might take 2 to 6 months to select and decide on a new solution. Implementation might take another 2 to 6 months.

Addendum 5: Profile and contact details of the author

Sector coordinator and PUM expert

harm.spoor@pum.nl
harmspoor@hotmail.com

www.linkedin.com/in/harmspoor/

+31651505512

pum.nl

Anthony H(arm) Spoor is an economist and experienced IT executive/CIO, management consultant and lecturer.

He was IT director at international publishing company Wolters Kluwer and at insurance and family services company Monuta. He managed large scale business-IT change programs, from introduction of digital services and new online platforms to business process reengineering and selection and implementation of CRM and ERP systems.

As consultant he worked for leading consultancies and IT providers, like Atos and Berenschot. As trainer/lecturer he worked for The Hague University of Applied Science and Cibit Academy/Middlesex University.

Harm has over 30 years of experience in business IT and is good at digital business innovation, aligning business and IT (strategies) and professionalizing IT departments.

At PUM he is responsible for the sector IT Business Consultancy. He is advising SME's in developing countries on improving their business results and contributing to sustainable economic development. He recently developed trainings/webinars on IT outsourcing and E-commerce and digital marketing.

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