Étude de faisablité — gabarit
Organisation
Projet ou initiative

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Sigles et abréviations

CSSI Comité stratégique du système d'information
DAP Document d'architecture préliminaire
DEF Document d'étude de faisabilité
DEU Document des exigences utilisateurs
MOA Maîtrise d'ouvrage
MOAD Maître d'ouvrage délégué
MOAS Maître d'ouvrage stratégique
MOE Maîtrise d'œuvre
OFR Opportunité, faisabilité, risque
SI Système d'information
TRI Taux de rentabilité interne
VAN Valeur actuelle nette

Historique des révisions

Date	Version	Description	Auteur
2016-12-12	0.1	Version initiale	Louis Martin
2017-01-24	0.2	Ajout au gabarit	Louis Martin
2017-01-25	1.0	Complétion du gabarit	Louis Martin

Sommaire exécutif

Le sommaire exécutif permet à un lecteur de prendre rapidement connaissance des résultats de l'étude. Il dépasse rarement plus d'une page. Il peut prendre, au choix, le titre de « Sommaire à la direction » ou « Résumé ».

L'étude de faisabilité a pour but de déterminer s'il existe au moins une solution faisable aux niveaux technique, économique et organisationnel qui rencontre les objectifs poursuivis en tenant compte de la matérialité de la question et ce, à un niveau de risque acceptable. L'étude de faisabilité contient également la recommandation d'une solution parmi les solutions possibles étudiées.

> *On appelle « Étude OFR » — Opportunité, Faisabilité, Risque — (ou parfois « Étude préalable ») l'étude fournie aux dirigeants pour préparer la décision de lancement ou de non lancement du projet. Elle est réalisée sous la responsabilité de la maîtrise d'ouvrage opérationnelle, avec la contribution du MOAD et de l'informatique. Elle est validée par le MOAS, qui la présente au CSSI si l'enjeu le justifie.*
>
> *La décision de lancer l'étude OFR est prise au vu de l'expression de besoin ; l'étude OFR ayant un coût parfois non négligeable, son lancement n'a rien d'automatique : certaines expression de besoin reçoivent donc une réponse négative, sans même que l'on réalise d'étude OFR.*
>
> *Le plan de l'étude OFR comporte quatre partie parties, comme son nom l'indique :*
>
> — *Opportunité : évaluation des besoins que le projet vise à satisfaire et gain pour l'entreprise (adaptation à une contrainte externe, baisse du coût de production, lancement d'un nouveau produit, gain de part de marché, accroissement du chiffre d'affaires, le tout aboutissant à une hausse du résultat). L'évaluation du gain pour l'entreprise doit résulter d'un raisonnement différentiel, c'est-à-dire de la comparaison de deux scénarios « avec » ou « sans » (il ne faudrait pas attribuer au projet un gain tendanciel, qui se serait produit même si on ne le réalisait pas). L'étude d'opportunité est fondée sur les éléments déjà fournis par l'expression de besoin (priorité, importance stratégique, urgence etc.), qu'elle approfondit et précise en les chiffrant si possible. Cette partie de l'étude est réalisée par la maîtrise d'ouvrage.*

— *Faisabilité : alors que l'étude d'opportunité ne fait que préciser l'expression de besoin, l'étude de faisabilité est entièrement nouvelle : il s'agit de dire si, et comment, le produit est réalisable, en proposant un ou plusieurs scénarios de solution, en évaluant la disponibilité des ressources nécessaires pour l'investissement initial et pour le fonctionnement du produit (humaines, techniques, matérielles) et en évaluant leur coût, là aussi de façon différentielle. Cette partie de l'étude est faite par la maîtrise d'œuvre informatique. La faisabilité doit aussi être évaluée du coté de la maîtrise d'ouvrage : disponibilité des compétences, effets sur les processus et l'organisation, cohabitation entre le nouveau produit et les anciens produits.*

— *Économie : en confrontant le résultat et le coût différentiels anticipés, et en tenant compte de la durée de vie anticipée du produit, on peut évaluer l'apport économique du projet en termes de rentabilité et de valeur actuelle nette. Cependant ces calculs sont très approximatifs : la précision des évaluations que comporte l'étude OFR, qu'il s'agisse du résultat ou du coût, est de l'ordre de 50 % (c'est-à-dire que si, lors de l'étude OFR, le coût anticipé est de 100 M €, cela veut dire que le coût réel doit probablement se situer dans une fourchette de 50 à 200 M €). Les TRI et VAN que l'on peut estimer à ce stade sont donc eux aussi très approximatifs. Il faut les prendre en considération, puisque ce sont les seules estimations dont l'entreprise dispose, mais il faut être conscient de leur imprécision.*

— *Risques : les risques concernant le projet sont de divers ordres : risques associés à la réalisation du projet ; risques concernant les coût et les délais ; risques relatifs à la disponibilité des éléments de la solution prévue ; risques associés à la mise en oeuvre du projet ; incertitudes relatives à l'acceptation par le marché, par l'organisation de l'entreprise. La probabilité associée à chacun des risques est évaluée, ses effets sont évalués, les mesures à prendre s'il se manifeste sont décrites.*

La réalisation d'une étude OFR est coûteuse : elle consomme du temps des experts internes à l'entreprise, et éventuellement du temps de consultant externe. Il serait un peu ridicule de consacrer à l'étude OFR un effort sans proportion avec l'importance du projet, ou de préparer longuement et lourdement une décision a priori évidente. L'étude OFR sera donc plus légère, voire réduite à quelques paragraphes, pour les projets de petite taille et de faible importance, ou pour ceux dont le lancement est de toute façon obligatoire. Le dosage de l'effort à consacrer à l'OFR est affaire de bon sens, et on ne peut pas le définir par un pourcentage du coût anticipé du projet.

Il peut arriver par exemple qu'un projet de petite taille, fonctionnellement important, suscite une controverse (c'est souvent le cas pour les projets de

workflow). Il peut alors se justifier de consacrer à l'étude OFR un montant du même ordre de grandeur que le coût du projet car l'étude fera progresser de façon significative la maîtrise du SI par l'entreprise.

Conditions de succès — Le succès de l'étude OFR réside dans la justesse de la décision qu'elle prépare, que celle-ci aboutisse à lancer ou à refuser le projet. Cette justesse ne peut être obtenue que si toutes les parties concernées de l'entreprise ont pu s'exprimer à l'occasion de l'étude : s'il existe des opposants au projet, leur position doit avoir été présentée de façon claire et équitable. Il faut aussi que le positionnement du projet par rapport au SI et à d'autres projets ait été correctement perçu et que l'on ait examiné des possibilités alternatives : "Que se passerait-il si l'on allait plus loin dans le sens du projet ? que se passerait-il si on ne réalisait pas le projet, ou si on réduisait ses ambitions ?" Il faut enfin que les dirigeants concernés aient pu se faire une idée exacte du contenu du projet et exprimer leurs avis.

Pièges à éviter — Si l'étude OFR est une étape de la démarche, elle est organiquement reliée aux autres étapes : elle reprend le contenu de l'expression de besoin qui se trouve en amont ; en aval, elle alimentera le suivi des risques qui se poursuivra pendant toute la durée de vie du projet ; les éléments économiques qu'elle contient serviront de référence pour évaluer la réussite du projet.

La préparation de l'OFR nécessite une coopération équilibrée entre la MOA et la MOE, et une validation par les responsables des deux bords.

— Michel VOLLE http://www.volle.com/travaux/ofr.htm

1 Introduction

1.1 But

Décrire le but du DEF.

Décrire les lecteurs visés.

1.2 Portée et contexte

Décrire la portée et le contexte de l'étude de faisabilité. Les contraintes particulières imposées à l'étude sont spécifiées.

Expliquer ce que l'étude couvre et, si pertinent, ce qu'elle ne couvre pas.

Décrire les objectifs, bénéfices et buts visés pour l'ensemble de la démarche entreprise dont l'étude de faisabilité ne représente qu'une étape.

1.3 Références

Les références incluses ici font partie intégrante du DEF. Les références usuelles sont le DEU et le DAP réalisés préalablement ou en parallèle avec le DEF. De plus les documents réalisés antérieurement à l'étude de faisabilité sont indiqués - en particulier les documents produits lors de la phase d'identification. Ces références doivent être décrites dans la bibliographie.

1.4 Méthodologie utilisée

Décrire la démarche utilisée pour la conduite de l'étude. Décrire les raisons motivant le choix de cette démarche (délai, budget, matérialité de la question, etc.).

1.5 Structure du document

Décrire ce que la suite du DEF contient.

Expliquer comment le DEF est organisé.

1.6 Points en suspens

Si certains points restent en suspens à cause de différentes contraintes dans l'exécution des travaux (ex. faute de temps ou de budget), ils sont inscrits ici.

2 Analyse de la situation

2.1 Situation actuelle

Cette section décrit le système actuel (manuel ou automatisé) tel qu'il existe. Si les changements désirés ne s'appuient pas sur un système existant, la situation ayant motivé la demande d'un nouveau système est décrite. Dans ce dernier cas, les sections suivantes sont adaptées en conséquence.

Cette section fournit au lecteur une introduction au domaine du problème. Cette introduction lui permet de mieux comprendre les raisons des changements et des améliorations souhaités.

2.1.1 Objectifs

Les objectifs du système sous étude sont décrits. Ces objectifs sont utiles pour évaluer l'arrimage du système avec les objectifs stratégiques de l'organisation.

2.1.2 Contexte et portée

> *This subclause provides an overview of the current system or situation, including as applicable, background, mission, objectives, and scope. In addition to providing the background for the current system, this subclause should provide a brief summary of the motivation for the current system. Examples of motivations for a system might include automation of certain tasks or countering of certain threat situations. The goals for the current system should also be defined, together with the strategies, solutions, tactics, methods, and techniques used to accomplish them. The modes of operation, classes of users, and interfaces to the operational environment define the scope of the proposed system, which are summarized in this clause and defined in greater detail in subsequent clauses.*

— IEEE Std 1362-1998

2.1.3 Cadre et contraintes opérationnels

This subclause describes any operational policies and constraints that apply to the current system or situation. Operational policies are predetermined management decisions regarding the operations of the current system, normally in the form of general statements or understandings that guide decision-making activities. Policies limit decision-making freedom but do allow for some discretion. Operational constraints are limitations placed on the operations of the current system. Examples of operational constraints include the following:

— *A constraint on the hours of operation of the system, perhaps limited by access to secure terminals*
— *A constraint on the number of personnel available to operate the system*
— *A constraint on the computer hardware (for example, must operate on computer X)*
— *A constraint on the operational facilities, such as office space*

— IEEE Std 1362-1998

2.1.4 Description du système actuel

This subclause will contain the major portion of the description of the current system. It provides a description of the current system or situation, including the following, as appropriate:

a) *The operational environment and its characteristics;*
b) *Major system components and the interconnection among those components;*
c) *Interfaces to external systems or procedures;*
d) *Capabilities, functions, and features of the current system;*
e) *Charts and accompanying descriptions depicting inputs, outputs, data flows, control flows, and manual and automated processes sufficient to understand the current system or situation from the user's point of view;*
f) *Cost of system operations;*
g) *Operational risk factors;*
h) *Performance characteristics, such as speed, throughput, volume, frequency;*
i) *Quality attributes, such as: availability, correctness, efficiency, expandability, flexibility, interoperability, maintainability, portability, reliability, reusability, supportability, survivability, and usability; and*
j) *Provisions for safety, security, privacy, integrity, and continuity of operations in emergencies.*

Since the purpose of this clause is to describe the current system and how it operates, it is appropriate to use any tools and/or techniques that serve this purpose. It is important that the description of the system be simple enough and clear enough that all intended readers of the document can fully understand it. It is also important to keep in mind that the ConOps document shall be written using the users' terminology. In most cases, this means avoidance of terminology specific to computers (i.e., "computer jargon").

Graphical tools should be used wherever possible, especially since ConOps documents should be understandable by several types of readers. Useful graphical tools include, but are not limited to, work breakdown structures (WBS), N^2 charts, sequence or activity charts, functional flow block diagrams, structure charts, allocation charts, data flow diagrams (DFD), object diagrams, context diagrams, storyboards, and entity-relationship diagrams.

The description of the operational environment should identify, as applicable, the facilities, equipment, computing hardware, software, personnel, and operational procedures used to operate the existing system. This description should be as detailed as necessary to give the readers an understanding of the numbers, versions, capacity, etc., of the operational equipment being used. For example, if the current system contains a database, the capacity of the storage unit(s) should be specified, provided the information exerts an influence on the users' operational capabilities. Likewise, if the system use communication links, the capacities of those links should be specified if they exert influence on factors such as user capabilities, response time, or throughput.

Those aspects of safety, security, and privacy that exert influence on the operation or operational environment of the current system should be described.

The author(s) of a ConOps document should organize the information in this subclause as appropriate to the system or situation, as long as a clear description of the existing system is achieved. If parts of the descriptions are voluminous, they can be included in an appendix or incorporated by reference. An example of material that might be included in an appendix would be a data dictionary. An example of material to be included by reference might be a detailed manual of operational policies and procedures for the current system.

— IEEE Std 1362-1998

2.1.5 Modes d'opération du système actuel

This subclause describes the various modes of operation for the current system or situation (e.g., operational, degraded, maintenance, training, emergency, alternate-site, peacetime, wartime, ground-based, flight, active, and idle modes). All of the modes that apply to all classes of users should be included. Important modes to include are degraded, backup, and emergency modes, if such exist. This is especially true if these modes involve different geographical sites and equipment that have significant impacts on the operational aspects of the system.

This subclause can be further divided into lower-level subclauses, one for each mode described. System processes, procedures, and capabilities or functions should be related to each mode, as appropriate, perhaps using a cross-reference matrix.

— IEEE Std 1362-1998

2.1.6 Catégories d'utilisateurs et parties impliquées

A user class is distinguished by the ways in which users interact with the system. Factors that distinguish a user class include common responsibilities, skill levels, work activities, and modes of interaction with the system. Different user classes may have distinct operational scenarios for their interactions with the system. In this context, a user is anyone who interacts with the existing system, including operational users, data entry personnel, system operators, operational support personnel, software maintainers, and trainers.

This subclause can be organized further, as follows, if it is helpful in communicating the content.

1. *Organizational structure*

   This subclause describes the existing organizational structures of the various groups and user classes that are involved with the current system. Organizational charts are useful graphic tools for this purpose.

2. *Profiles of user classes*

   This subclause provides a profile of each user class for the current system. If some users play several roles, each role should be identified as a separate user class.

   Each user class for the current system, including operators and maintainers, should be described in a separate subclaude. Each of these should provide a description of the user class, including responsibilities, education, background, skill level, activities, and modes of interaction with the current system.

3. *Interactions among user classes*

   This subclause describes interactions among the various user classes involved with the current system. In particular, interactions among user groups, operators, and maintainers should be described. Interactions that occur among the users of the system, and between users and non-users, both within the organization and across organizational boundaries, if they are relevant to the operation of the existing system, should be described. Informal as well as formal interactions should be included.

4. *Other involved personnel*

   This subclause describes other personnel who will not directly interact with the system, but who have an influence on, and are influenced by, the present system. Examples include executive managers, policy makers, and the user's clients. Although these individuals do not have hands-on interaction with the system, they may significantly influence, and be influenced by, the new or modified system.

— IEEE Std 1362-1998

2.1.7 Environnement et logistique du maintien du système

This subclause describes the support concepts and support environment for the current system, including the support agency or agencies; facilities; equipment; support software; repair or replacement criteria; maintenance levels and cycles; and storage, distribution, and supply methods.

— IEEE Std 1362-1998

2.2 Changements souhaités et leurs justifications

This clause of the ConOps document describes the shortcomings of the current system or situation that motivate development of a new system or modification of an existing system. This clause provides a transition from the previous clause of the ConOps, which describes the current system or situation, to the next clause of the ConOps, which describes the proposed system. If there is no current system on which to base changes, this clause should so indicate and provide justification for the features of the new system.

— IEEE Std 1362-1998

2.2.1 Justification des changements

This subclause should:

a) *Briefly summarize new or modified aspects of the user needs, missions, objectives, environments, interfaces, personnel, or other factors that require a new or modified system;*
b) *Summarize the deficiencies or limitations of the current system or situation that make it unable to respond to new or changed factors; and*
c) *Provide justification for a new or modified system.*
    1) *If the proposed system is to meet a new opportunity, describe the reasons why a new system should be developed to meet this opportunity.*
    2) *If the proposed system improves a current operation, describe the rationale behind the decision to modify the existing system (e.g., to reduce life cycle costs or improve personnel efficiency).*
    3) *If the proposed system implements a new functional capability, explain why this function is necessary.*

— IEEE Std 1362-1998

2.2.2 Description des changements souhaités

This subclause summarizes new or modified capabilities, functions, processes, interfaces, and other changes needed to respond to the factors identified in the previous subclause. Changes should be based on the current system described in clause 'Current system or situation' of the ConOps document. If there is no existing system on which to base changes, this subclause should summarize the capabilities to be provided by a new system. This description should include the following, as appropriate:

a) *Capability changes. — Description of the functions and features to be added, deleted, and modified in order for the new or modified system to meet its objectives and requirements.*
b) *System processing changes. — Description of changes in the process or processes of transforming data that will result in new output with the same data, the same output with new data, or both.*
c) *Interface changes. — Description of changes in the system that will cause changes in the interfaces and changes in the interfaces that will cause changes in the system.*
d) *Personnel changes. — Description of changes in personnel caused by new requirements, changes in user classes, or both.*

e) *Environment changes. — Description of changes in the operational environment that will cause changes in the system functions, processes, interfaces, or personnel and/or changes that should be made in the environment because of changes in the system functions, processes, interfaces, or personnel.*
f) *Operational changes. — Description of changes to the user's operational policies, procedures, methods, or daily work routines caused by the above changes.*
g) *Support changes. — Description of changes in the support requirements caused by changes in the system functions, processes, interfaces, or personnel and/or changes in the system functions, processes, interfaces, or personnel caused by changes in the support environment.*
h) *Other changes. — Description of other changes that will impact the users, but that do not fit under any of the above categories.*

— IEEE Std 1362-1998

2.2.3 Priorité des changements

This subclause identifies priorities among the desired changes and new features. Each change should be classified as essential, desirable, or optional. Desirable and optional changes should be prioritized within their classes. If there is no existing system on which to base changes, this subclause should classify and prioritize the features of the proposed system.

a) *Essential features. — Features that shall be provided by the new or modified system. The impacts that would result if the features were not implemented should be explained for each essential feature.*
b) *Desirable features. — Features that should be provided by the new or modified system. Desirable features should be prioritized. Reasons why the features are desirable should be explained for each desirable feature.*
c) *Optional features. — Features that might be provided by the new or modified system. Option features should be prioritized. Reasons why the features are optional should be explained for each optional feature.*

Classifying the desired changes and new features into essential, desirable, and optional categories is important to guide the decision making process during development of the proposed system. This information is also helpful in cases of budget or schedule cuts or overruns, since it permits determination of which features must be finished, and which ones can be delayed or omitted.

— IEEE Std 1362-1998

2.2.4 Changements considérés et non retenus

This subclause identifies changes and new features considered but not included in the 'Description of desired changes' of the ConOps document, and the rationale for not including them. By describing changes and features considered but not included in the proposed system, the authors document the results of their analysis activities. This information can be useful to other personnel involved with system development, whether it be users, buyers, or developers should they want to know if a certain change or feature was considered, and if so, why it was not included. In software especially, they are few, if any, outward signs of what has been changed, improved or is still unsafe or unsecure (e.g., in certain scenarios or workarounds).

— IEEE Std 1362-1998

2.2.5 Hypothèses et contraintes

This subclause describes any assumptions or constraints applicable to the changes and new features identified in this clause. This should include all assumptions and constraints that will affect users during development and operation of the new or modified system. An assumption is a condition that is taken to be true. An example of an assumption is that the system workload will double over the next two years, thus a new system with higher performance is required. A constraint is an externally imposed limitation placed on the new or modified system or the processes used to develop or modify the system. Examples of constraints include external interface requirements, and limits on schedule and budget.

— IEEE Std 1362-1998

2.3 Système envisagé

This clause describes the proposed system that result from the desired changes specified in the previous clause of the ConOps document. This clause describes the proposed system in a high-level manner, indicating the operational features that are to be provided without specifying design details. Methods of description to be used and the level of detail in the description will depend on the situation. The level of detail should be sufficient to fully explain how the proposed system is envisioned to operate in fulfilling users' needs and buyer's requirements.

In some cases, it may be necessary to provide some level of design detail in the ConOps. The ConOps should not contain design specifications, but it may contain some examples of typical design strategies, for the purpose of clarifying operational details of the proposed system. In the event that actual design constraints need to be included in the description of the proposed system, they shall be explicitly identified as required to avoid possible misunderstandings.

NOTE — If some of the features of the proposed system are the same as the features of the original system, then the comment "no change" should appear after the subclause number and name.

— IEEE Std 1362-1998

2.3.1 Objectifs

Les objectifs du système envisagé sont décrits. Ces objectifs sont utiles pour évaluer l'arrimage du système envisagé avec les objectifs stratégiques de l'organisation.

2.3.2 Contexte et portée

This subclause provides an overview of the new or modified system, including, as applicable, background, mission, objectives, and scope. In addition to providing the background for the proposed system, this subclause should provide a brief summary of the motivation for the system. Examples of motivations for a system might include automation of certain tasks or taking advantage of new opportunities. The goals for the new or modified system should also be defined, together with the strategies, solutions, tactics, methods, and techniques proposed to achieve those goals. The modes of operation, classes of users, and interfaces to the operational environment define the scope of the proposed system, which are summarized in this subclause and defined in greater detail in subsequent subclauses.

— IEEE Std 1362-1998

2.3.3 Cadre et contraintes opérationnels

This subclause describes operational policies and constraints that apply to the proposed system. Operational policies are predetermined management decisions regarding the operation of the new or modified system, normally in the form of general statements or understandings that guide decision-making activities.

Policies limit decision-making freedom but do allow for some discretion. Operational constraints are limitations placed on the operations of the proposed system. Examples of operational constraints include the following:

— *A constraint on the hours of operation of the system, perhaps limited by access to secure terminals;*
— *A limiting constraint on the number of personnel available to operate the system;*
— *A limiting constraint on the computer hardware (e.g., must operate on computer X); and*
— *A limiting constraint on the operational facilities, such as office space.*

— IEEE Std 1362-1998

2.3.4 Description du système envisagé

This subclause will contain the major portion of the description of the proposed system. It provides a description of the proposed system, including the following, as appropriate:

a) *The operational environment and its characteristics;*
b) *Major system components and the interconnections among those components;*
c) *Interfaces to external systems or procedures;*
d) *Capabilities or functions of the proposed system;*
e) *Charts and accompanying descriptions depicting inputs, outputs, data flows, control flows, and manual and automated processes sufficient to understand the proposed system or situation from the user's point of view;*
f) *Cost of system operations;*
g) *Operational risk factors;*
h) *Performance characteristics, such as speed, throughput, volume, frequency;*
i) *Quality attributes, such as: reliability, availability, correctness, efficiency, expandability, flexibility, interoperability, maintainability, portability, reusability, supportability, survivability, and usability; and*
j) *Provisions for safety, security, privacy, integrity, and continuity of operations in emergencies.*

Since the purpose of this clause is to describe the proposed system and how it should operate, it is appropriate to use any tools and/or techniques that serve that purpose. It is important that the description of the system be simple enough and clear enough that all intended readers of the document can fully understand it. It is also important to keep in mind that the ConOps shall be written using the user's language. In most cases, this means avoidance of terminology specific to computers — in other words, "computer jargon".

Graphical and pictorial tools should be used wherever possible, especially since ConOps documents should be understandable by several types of readers. Useful graphical tools include, but are not limited to, WBS, N^2 charts, sequence or activity charts, functional flow block diagrams, structure charts, allocation charts, DFDs, object diagrams, storyboards, and entity-relationship diagrams.

The description of the operational environment should identify, as applicable, the facilities, equipment, computing hardware, software, personnel, and operational procedures needed to operate the proposed system. This description should be as detailed as necessary to give the readers an understanding of the numbers, versions, capacity, etc., of the operational equipment to be used. For example, if the proposed system contains a database, the capacity of the storage units should be specified, provided the information influences the users' operational capabilities. Likewise, if the system uses communication links, then the capacities of those links should be specified if they exert influence on user capabilities or response time.

Those aspects of safety, security, and privacy that exert influence on the operation or operational environment of the proposed system should be described.

The author(s) of a ConOps document should organize the information in this subclause as appropriate to the system or situation, as long as a clear description of the proposed system is achieved. If parts of the description are voluminous, they can be included in an appendix or incorporated by reference. An example of material that might be included in an appendix would be a data dictionary. An example of material to be included by reference might be a detailed manual of operational policies and procedures for the proposed system.

— IEEE Std 1362-1998

2.3.5 Modes d'opération du système envisagé

This subclause describes the various modes of operation for the proposed system (for example, regular, degraded, maintenance, training, emergency, alternate-site, peacetime, wartime, ground-based, flight, active, and idle modes). Include All of the modes that apply to all user classes. Important modes to include are degraded, backup, and emergency modes, if such exist. This is especially true if these modes involve different geographical sites and equipment that have significant impacts on the system.

This subclause can be further divided into lower-level subclauses, one for each mode described. System processes, procedures, and capabilities or functions should be related to each mode.

— IEEE Std 1362-1998

2.3.6 Catégories d'utilisateurs et parties impliquées

A user class is distinguished by the ways in which users interact with the system. Factors that distinguish a user class include responsibilities, skill level, work activities, and mode of interaction with the system. Different user classes may have distinct operational scenarios for their interactions with the system. In this context, a user is anyone who will interact with the proposed system, including operational users, data entry personnel, system operators, operational support personnel, software maintainers, and trainers.
This subclause can be further divided into lower-level subclauses if it is helpful in communicating the content.

1. *Organizational structure*
   This subclause describes the existing organizational structures of the various groups and user classes that will be involved with the proposed system. Organizational charts are useful graphic tools for this purpose.
2. *Profiles of user classes*
   This subclause provides a profile of each user class for the proposed system. If some users play several roles, each role should be identified as a separate user class.
   Each user class for the proposed system, including operators and maintainers, should be described in a separate subclaude. Each subclause should provide a description of the user class, including responsibilities, education, background, skill level, activities, and envisioned modes of interaction with the proposed system.
3. *Interactions among user classes*
   This subclause describes interactions among the various user classes that may be involved with the proposed system. In particular, interactions among user groups, operators, and maintainers should be described. Interactions that will occur among the users of the proposed system, and between users and non-users, both within the organization and across interfacing organizations, if they are relevant to the operation of the proposed system, should be described. Informal as well as formal interactions should be included.
4. *Other involved personnel*
   This subclause describes other personnel who will not directly interact with the system, but who have an influence on, and are influenced by, the present system. Examples include executive managers, policy makers, and the user's clients. Although these individuals do not have hands-on interaction with the system, they may significantly influence, and be influenced by, the new or modified system.

— IEEE Std 1362-1998

2.3.7 Environnement et logistique du maintien du système

> *This subclause describes the support concepts and support environment for the proposed system, including the support agency or agencies; facilities; equipment; support software; repair or replacement criteria; maintenance levels and cycles; and storage, distribution, and supply methods.*

— IEEE Std 1362-1998

2.4 Cas d'utilisation du système envisagé

L'approche choisie pour cette section consiste à utiliser la méthode des cas d'utilisation.

> *A scenario is a step-by-step description of how the proposed system should operate and interact with its users and its external interfaces under a given set of circumstances. Scenarios should be described in a manner that will allow readers to walk through them and gain an understanding of how all the various parts of the proposed system function and interact. The scenarios tie together all parts of the system, the users, and other entities by describing how they interact. Scenarios may also be used to describe what the system should not do.*
>
> *Scenarios should be organized into clauses and subclauses, each describing an operational sequence that illustrates the roles of the system, its interactions with users, and interactions with other systems. Operational scenarios should be described for all operational modes and all classes of users identified for the proposed system. Each scenario should include events, actions, stimuli, information, and interactions as appropriate to provide a comprehensive understanding of the operational aspects of the proposed system. Prototypes, storyboards, and other media, such as video or hypermedia presentations, may be used to provide part of this information.*
>
> *In most cases, it will be necessary to develop several variations of each scenario, including one for normal operation, one for stress load handling, one for exception handling, one for degraded mode operation, etc.*
>
> *Scenarios play several important roles. The first is to bind together all of the individual parts of a system into a comprehensible whole. Scenarios help the readers of a ConOps document understand how all the pieces interact to provide operational capabilities. The second role of scenarios is to provide readers with operational details for the proposed system; this enables them to understand the users' roles, how the system should operate, and the various operational features to be provided.*

Scenarios can also support the development of simulation models that help in the definition and allocation of derived requirements, identification, and preparation of prototypes to address key issues.

In addition, scenarios can serve as the basis for the first draft of the users' manual, and as the basis for developing acceptance test plans. The scenarios are also useful for the buyer and the developer to verify that the system design will satisfy the users' needs and expectations.

Scenarios can be presented in several different ways. One approach is to specify scenarios for each major processing function of the proposed system. Using this approach, this clause would contain one subclause for each process. Each subclause would then contain several more lower-level subclauses, one for each scenario supported by that process. An alternative approach is to develop thread-based scenarios, where each scenario follows one type of transaction type through the proposed system. In this case, each subclause would contain one scenario for each interaction type, plus scenarios for degraded, stress loaded, and back-up modes of operation. Other alternatives include following the information flow through the system for each user capability, following the control flows, or focusing on the objects and events in the system.

Scenarios are an important component of a ConOps, and should therefore receive substantial emphasis. The number of scenarios and level of detail specified will be proportional to the perceived risk and the criticality of the project.

— IEEE Std 1362-1998

2.5 Étude d'impact

This clause describes the operational impacts of the proposed system on the users, the developers, and the support and maintenance organizations. It also describes the temporary impacts on users, buyers, developers, and the support and maintenance organizations during the period of time when the new system is being developed, installed, or trained on.

This information is provided in order to allow all affected organizations to prepare for the changes that will be brought about by the new system and to allow for planning of the impacts on the buyer agency or agencies, user groups, and the support maintenance organizations during the development of, and transition to the new system.

— IEEE Std 1362-1998

2.5.1 Perspective opérationnelle

This subclause should be further divided into lower-level subclauses to describe the anticipated operational impacts on the user, development, and support or maintenance agency or agencies during operation of the proposed system. These impacts may include the following:

— *Interfaces with primary or alternate computer operating centers;*
— *Changes in procedures;*
— *Use of new data sources;*
— *Changes in quantity, type, and timing of data to be input into the system;*
— *Changes in data retention requirements;*
— *New modes of operation based on emergency, disaster, or accident conditions;*
— *New methods for providing input data if the required data are not readily available;*
— *Changes in operational budget; and*
— *Changes in operational risks.*

— IEEE Std 1362-1998

2.5.2 Perspective organisationnelle

This subclause should be further divided into lower-level subclauses to describe the anticipated organizational impacts on the user, development, and support or maintenance agency or agencies during operation of the proposed system. These impacts may include the following:

— *Modification of responsibilities;*
— *Addition or elimination of job positions;*
— *Training or retraining users;*
— *Changes in numbers, skill levels, position identifiers, or locations of personnel; and<*
— *Numbers and skill levels of personnel needed for contingency operation at one or more alternate sites following an emergency, disaster, or accident.*

— IEEE Std 1362-1998

2.5.3 Perspective de mise en place

This subclause should be further divided into lower-level subclauses to describe the anticipated impacts on the user, development, and support or maintenance agency or agencies during the development project for the proposed system. These impacts may include the following:

— *Involvement in studies, meetings, and discussions prior to award of the contract;*
— *User and support involvement in reviews and demonstrations, evaluation of initial operating capabilities and evolving versions of the system, development or modofication of databases, and required training;*
— *Parallel operation of the new and existing systems; and*
— *Operational impacts during system testing of the proposed system.*

— IEEE Std 1362-1998

2.6 Caractéristiques du système envisagé

This clause provide an analysis of the benefits, limitations, advantages, disadvantages, and alternatives and trade-offs considered for the proposed system.

— IEEE Std 1362-1998

2.6.1 Sommaire des améliorations

This subclause provides a qualitative (and to the extent possible, quantitative) summary of the benefits to be provided by the proposed system. This summary should include the below items, as applicable. In each case, the benefits should be related to deficiencies identified previously in the ConOps.
— *New capabilities. — Additional new features or functionality.*
— *Enhanced capabilities. — Upgrades to existing capabilities.*
— *Deleted capabilities. — Unused, obsolete, confusing, or dangerous capabilities removed.*
— *Improved performance. — Better response time, reduced storage requirements, improved quality, etc.*

— IEEE Std 1362-1998

2.6.2 Inconvénients et limites

This subclause provides a qualitative (and to the extent possible, quantitative) summary of the disadvantages and/or limitations of the proposed system. Disadvantages might include the need to retrain personnel, rearrange work spaces, or change to a new style of user interface; limitations might include features desired by users but not included, degradation of existing capabilities to gain new capabilities, or greater-than-desired response time for certain complex operations.

— IEEE Std 1362-1998

2.6.3 Autres choix considérés et raisons des choix retenus

> *This subclause should describe alternatives considered, the trade-offs among them, and rationale for the decision reached. In the context of a ConOps document, alternatives are operational alternatives and not design alternatives, except to the extent that design alternatives may be limited by the operational capabilities desired in the new system. This information can be useful to determine, now and at later times, whether a given approach was analyzed and evaluated, or why a particular approach or solution was rejected. This information would probably be lost if not recorded.*

— IEEE Std 1362-1998

2.7 Critères de sélection des solutions

Décrire l'approche utilisée pour établir les critères de sélection.

Pour éviter des biais toujours possibles, il est préférable de déterminer les critères de sélection et leur poids relatif avant d'entreprendre plus en détail l'étude des solutions possibles. Les critères discriminants doivent être également identifiées. Un critères discriminant entraîne le rejet automatique d'une solution quelques soient ses autres qualités.

Les raisons motivant le choix d'un critère et son poids relatif sont décrites. Le tout forme une grille servant à départager les solutions retenues.

Cette étape est déterminante dans le choix ultérieur d'une solution. Toutes les parties prenantes à l'étude doivent être impliquées dans le choix des critères, au premier plan, bien entendu, le demandeur lui-même.

3 Solutions possibles

Le but de cette section est de décrire les solutions possibles et de décrire les raisons motivant le choix des solutions retenues pour la prochaine étape.

3.1 Identification des solutions possibles

Décrire l'approche utilisée pour l'identification des solutions possibles.

C'est ici que les catégories de solution sont explorées. Cette étape est basée sur des techniques de remue-méninges. Des gains importants peuvent résulter de cette étape. Il ne faut pas hésiter à sortir des sentiers battus. Les étapes ultérieures permettront de filtrer les solutions non réalisables.

La nature du problème sous étude ou du besoin d'affaires détermine l'espace des solutions possibles. Pour un problème technique, les solutions possibles seront nécessairement techniques.

Les catégories de solution fréquentes sont, entre autres :

- L'abandon pure et simple du système
- Le statu quo (avec amélioration)
- Une plus grande part aux processus humains
- Une plus grande part aux processus informatisés
- Les progiciels
- L'infonuagique
- Le développement sur mesure

3.2 Sélection des solutions retenues

Décrire l'approche utilisée pour la sélection des solutions retenues.

L'objectif de cette section est de décrire la démarche utilisée pour sélectionner parmi les catégories de solution possibles, celles qui méritent d'être retenues pour la prochaine section. Chaque analyse en profondeur est coûteuse en temps et en ressources. Il est souvent évident

que certaines catégories de solution ne tiennent pas la route et ne méritent pas une étude plus approfondie. Une courte explication motivant nos choix est utile.

Chacune des solutions retenues doit être organisationellement, techniquement et financièrement faisable.

4 Analyse des solutions retenues

Pour chaque solution retenue, la faisabilité est démontrée.

4.1 Statu quo

4.1.1 Description

Description de la solution dans ses grandes lignes. Emphase sur ses principales caractéristiques. La partie des besoins couverte par la solution, la partie des besoins non couverte.

4.1.2 Perspective organisationnelle

Les caractéristiques organisationnelles et opérationnelles spécifiques à la solution sont décrites.

4.1.3 Perspective technique

Les caractéristiques techniques spécifiques à la solution sont décrites. Les arrimages avec les infrastructures existantes sont décrits et validés.

4.1.4 Perspective financière

Les analyses financières faisant partie des pratiques de l'organisation sont réalisées pour la solution. Le résultat, s'il est volumineux, est placé en annexe et un sommaire est inclus ici.

4.1.5 Risques spécifiques

Une analyse de risque pertinente pour la solution considérée est incluse ici. Elle permet une gestion des risques qui minimise les coûts et oriente les priorités lors de la réalisation du projet.

4.2 Solution X

4.2.1 Description

4.2.2 Perspective organisationnelle

4.2.3 Perspective technique

4.2.4 Perspective financière

4.2.5 Risques spécifiques

4.3 Solution Y

4.3.1 Description

4.3.2 Perspective organisationnelle

4.3.3 Perspective technique

4.3.4 Perspective financière

4.3.5 Risques spécifiques

4.4 Solution Z

4.4.1 Description

4.4.2 Perspective organisationnelle

4.4.3 Perspective technique

4.4.4 Perspective financière

4.4.5 Risques spécifiques

4.5 Analyse comparative des solutions envisagées

Description des critères de comparaison retenus.

L'analyse comparative des solutions retenues est réalisée en fonction de la grille des critères établie précédemment.

5 Recommandations et plan d'action

5.1 Recommandations

Même si une seule solution doit être recommandée, cette solution peut être accompagnée de plusieurs recommandations connexes qui en assureront le succès.

5.2 Plan d'action préliminaire

6 Bibliographie

6.1 Livres

6.2 Normes

6.3 Rapports

6.4 Sites

7 Annexe X *(normative)*

Une annexe normative fait partie intégrante de l'étude de faisabilité.

Par exemple, ce type d'annexe peut contenir la description de règles d'affaires.

8 Annexe Y *(informative)*

Une annexe informative ne fait pas partie intégrante de l'étude de faisabilité mais donne un complément d'information utile à sa compréhension.

Par exemple, ce type d'annexe peut contenir un modèle conceptuel. Le modèle conceptuel facilite la compréhension du domaine. Il est composé d'une description des concepts et de diagrammes UML lorsque ceux-ci permettent de mieux communiquer les concepts et les relations entre eux.