Quint Wellington Redwood
External research note, international ICT-yearbook
Authors: C.J. van Herwaarden MIM MMC RI & ir F.U. Grift MBA

IPW & IPW Stadia Model[tm] (IPWSM[tm])
Version 1.0
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IPW™ and the IPW Stadia Model™ (IPWSM™)

About the Authors

The Authors of this article are Hans van Herwaarden MIM MMC RI and ir.Frank Grift MBA of Quint Wellington Redwood. Frank is one of the founders of Quint and was highly involved in developing and evolving the range IPW Models. He also wrote the booklet ABC to IPW. Hans is the brain behind the IPW Stadia Model, that enables a structured and staged approach using the model to improve the perfomance of ICT organisations. This article is a combination of two articles on these subjects that were published in the dutch IT-yearbooks of 1998 and 1999.

Introduction

IPW[tm] is a method for the implementation of a process-oriented workflow in an ICT organization, which is used by an increasing number of companies. Traditionally, the focus of IPW[tm] was on the management processes (operational and tactical), but over the past few years, the scope of IPW[tm] has been broadened to include the strategic and development processes as well. For the practical elaboration of the processes, so-called best practices are used. The implementation model uses the best practices of models such as ITIL, CMM[sm] and/or SPICE in addition to the best practices collected by Quint. Using the so-called "maturity levels" defined in CMM[sm] and SPICE, a phased approach can be used in the development domain. Up until now, this was not the case for the management domain (operational, tactical and strategic), as ITIL always assumes an all or nothing situation (compliant or not). In this contribution the IPW Stadia Model[tm] is described, which, based on IPW[tm] and analogous to the philosophies of CMM[sm] and SPICE, defines a number of stages for the execution of management processes as well as for management organizations.

A brief review of IPW

The IPW-model is a process model for an ICT organization, which connects the ITIL processes Helpdesk, Configuration Management, Change Management, Problem Management, Software Control & Distribution (service support set) and Capacity Management, Cost Management, Availability Management, Contingency Planning, Service Level Management (service delivery set).

The purpose of the model is to gain insight in relation between the ITIL-processes and to provide a framework for an ICT organization. Without such a model it is often very difficult to start with an ITIL improvement process. ICT-management must deal with questions such as: Where do we start? To what extent are these processes demanding to each other? Which processes are critical?

That's why many of our clients use the IPW-model as a reference model for the communication within the ICT organization as well as to their customers. For example, the IPW-model appears in publications, posters and memos etc. Therefore everybody is acquainted with the IPW-model and many discussions about the introduction of ITIL processes will be related to this model. The IPW-model is not a theoretical model. It is originated from actual practice. On one hand it is based on the known ITIL classification of IT Management and on the other hand 'best practices' in many organizations.

Implementation of Process-oriented Workflow (IPW[tm]) is seen as a de facto standard for the implementation of ITIL processes in an ICT organization. In 1997 Gartner Group has characterized the IPW-model as a highly useable model to set up an ICT organization and therefore worth while to invest in. This has led to a strong and rapid increase in the international awareness of IPW[tm], which has caused a number of large internationals to apply the model world-wide.

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Over the past few years, the model has proved to be extremely successful in transforming both large and small ICT organizations from functionally-, product- and technologically-oriented organizations to customer-, process- and service-oriented organizations. Also when (parts of) the IT services are outsourced, IPW[tm] has proved to be of great practical use to both the outsourcing organization and the outsourcing partner in arriving at clearly defined services, dividing processes over several organizations, and in entering into agreements on matters such as communication, the execution of processes, or reporting. Furthermore the use of IPW[tm] has had an important synergetic effect on the certification of ICT organizations (ISO-9000) and the introduction of other quality systems (NKM, EFQM).

The evolution of IPW™
More than seven years experience has been gained with IPW and the model has been adjusted, extended, adapted and refined many times by Quint Wellington Redwood. Quint Wellington Redwood and KPN Telecom developed the basic version (Figure 1) of IPW in 1992. This model consists only of incident-, problem- and change management concentrated around the production process. Configuration management was placed within this model as a support function.
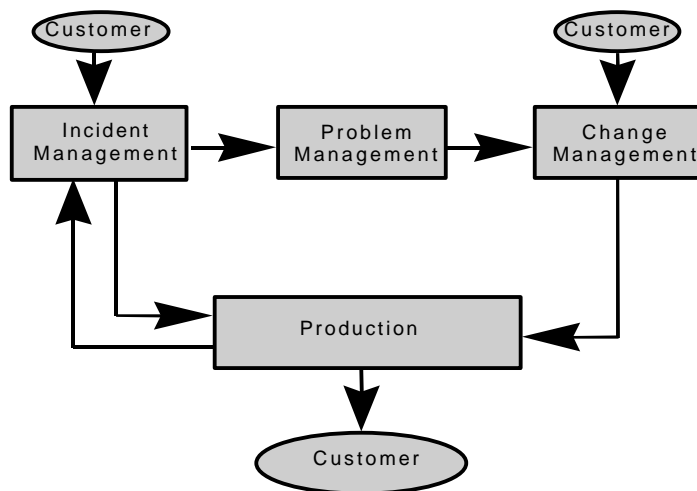

Figure 1: IPW in the year 1992

The purpose of this version was to show the most important relations between the processes mentioned. During the development of this model, choices of the level of modeling had been made. On a certain level of abstraction only mainstreams of information between and within the processes are showed. This is done for two reasons. On the one hand to keep the overview, because a full complex process model is very difficult to use as a communication method within an ICT organization. On the other hand the IPW model was made to easily recognize the ITIL processes. By the adoption of ITIL as a de facto standard a conscious choice was made for an IPW-model with recognizable process from the ITIL books. Especially this criteria of developing is modifying for the success of the IPW-model in relation to other models. If users do not see the relation between IPW and ITIL easily, a new barrier is created, which conflicts with the most important aim of the IPW model: to create an overview of ITIL processes.

In 1993 the need to expand IPW with the service delivery processes came into existence. The reason was that users wanted IPW as a reference model for the entire ICT organization, maintaining the identification with the ITIL books. However the precise boundaries and relations between the service delivery processes are less clear than with the service support processes. When the ITIL books about the service delivery processes are read, it is clear that the consistency which characterize the service support process (from incident to problem, to known error to request for change) are largely missing in the service delivery books.

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Because almost every implementation did not went further than the service support processes, the second version of the IPW-model presented the service delivery processes as one block of processes. Figure 2 shows the IPW-model in the year 1994.
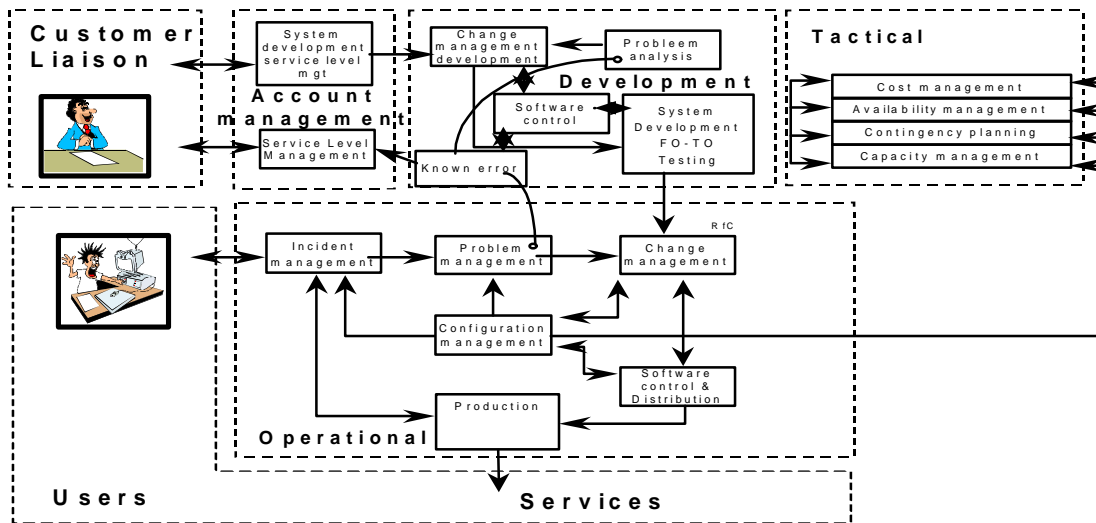

Figure 2: IPW in the year 1994

In 1997 the strategic processes of the ICT organization were also assigned to the IPW-model. In this model the service delivery processes were also showed in one block, but were placed in the service planning-, developing- and account management processes. In this version it was supposed that the delivery processes were passed through service planning as well as developing. A further specification of the service delivery processes was left undone. Figure 3 shows the IPW-model in the year 1997.
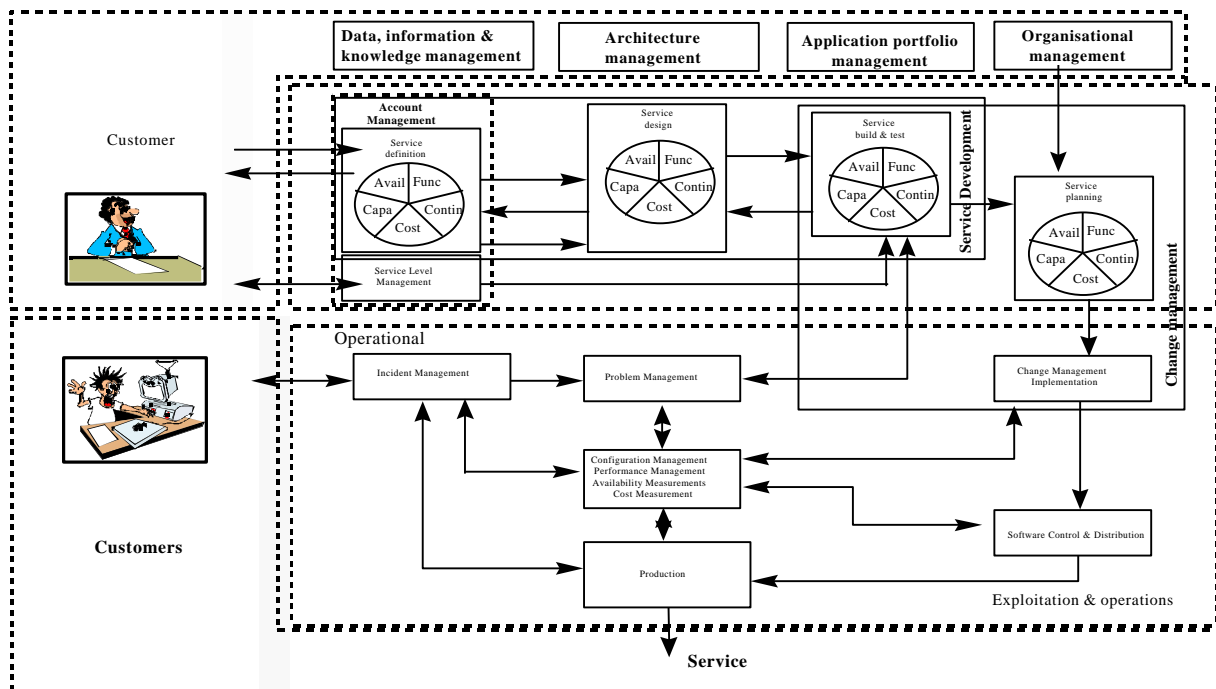

Figure 3: IPW in the year 1997

In October 1998 the booklet 'The ABC to IPW' was published, which describes the IPW- model on two levels: (1) The highest level of abstraction (2) The elaboration of every process in a separate process

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model. This booklet also gives a description of the further specification of the service delivery processes.

The latest version, developed in 1999, is shown below in figure 4. Supplier management and security management were integrated into the model, following the latest developments within the ITIL Library and the publication of the Information Systems Procurement Library (ISPL).

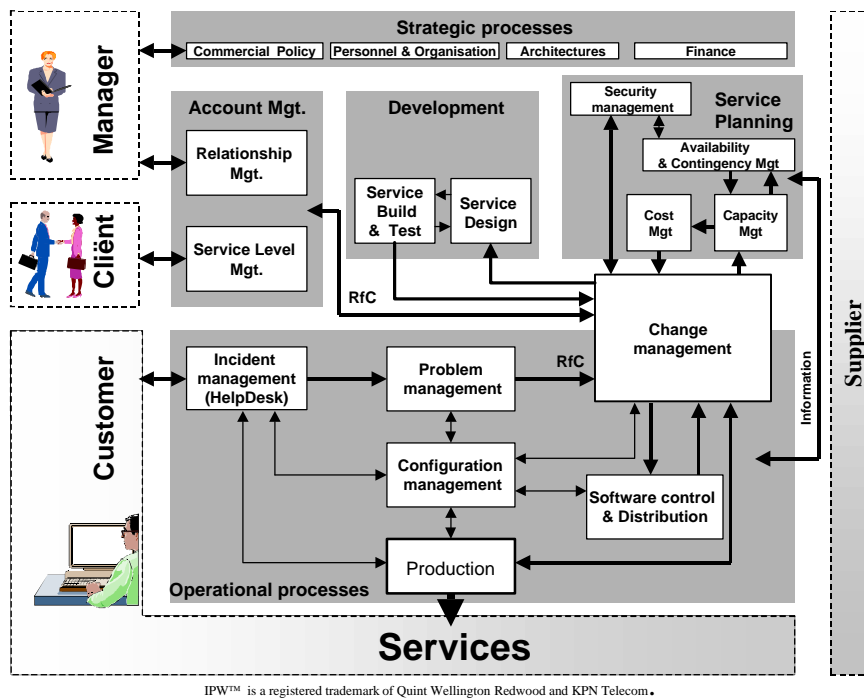IPW™ is a registered trademark of Quint Wellington Redwood and KPN Telecom.

Figure 4: IPW in the year 1999

Organizational improvement

It appears that during the implementation and evaluation of a large number of projects for the transformation of an ICT organization, a number of issues always surface. For instance the cultural aspects, the HRM aspects and the issues regarding the technology to be used are elements that play a part in each transformation. These aspects and their interrelationship must be given due attention when an organization improvement project is carried out. Management of Organizational Change (MOC) forms the thread of all phases. The Analyze-Unfreeze-Reconfigure-Refreeze (AURRA) phasing forms an extremely practicable framework for planning and implementing organizational changes. Conscious use of this AURRA phasing (Figure 5) has already kept many organizations from planning courses, new procedures or changes in the hierarchy to be implemented at inappropriate times. In the Analyze phase the current situation in which the organization finds itself is assessed. This phase is essential for identifying improvement priorities, obtaining a baseline, and for planning and obtaining the necessary preconditions for an improvement project. The Unfreeze phase is important for obtaining general support in the organization for the necessary changes. As many people as possible should gain an understanding of the necessity of the changes, after which the desired situation can be sketched. During the Reconfigure phase, changes in the organization, systems, working methods and procedures can actually be implemented. In the Refreeze phase measures are taken to prevent the organization from reverting to the old working methods and thereby losing the improvements realized. Once this cycle has been completed, it is gone through again - the Refreeze phase is simply followed by another Analysis phase. The cycle is repeated on the one hand to measure the improvement, and on the other hand to prepare the next improvement. Using this cycle to improve organizations prevents the introduction of new procedures or working methods that soon become "shelfware" and do not lead

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to actual improvement. Experience shows that quick wins are indeed often possible, but that for a lasting result, the typical time span of an integral change project is 1 to 3 years, depending on the size of the organization and the complexity of the environment. This contribution will focus entirely on the processes of such an improvement project.
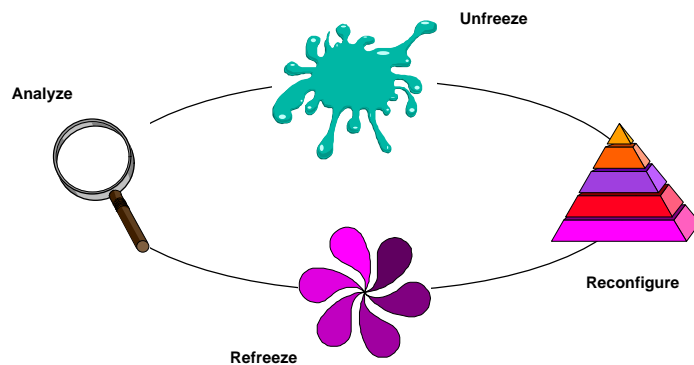
Figure 5: The AURRA organization improvement cycle

Phasing
The question which processes should be improved first, presents itself with each transformation. This question can of course not be answered at a generic level for all organizations. After all, each organization is different, each has its "own" problems, and each operates in a specific environment. So when setting up an improvement project, these elements have to be taken into account. This requires an organization-specific insight, which is obtained in the "Analyze" phase of the AURRA frame. This ensures that the priorities for the organization improvement are optimally tuned to the successful operation of the ICT organization in question.

Generic dependencies
Without detracting anything from the above, at the same time a more generic statement can be made about the logical order of the IPW^{tm} processes on the basis of the relationships and the dependencies (input/output) in the model. For instance the problem management process largely depends on the incident information supplied by the incident management process (input) in order to be able to identify the underlying causes. Also, the problem management process depends on the place of delivery for RFCs (output) to be facilitated by the change management process. Therefore the workflow defined in the model already indicates some logical order for the improvement of the processes (Figure 6).
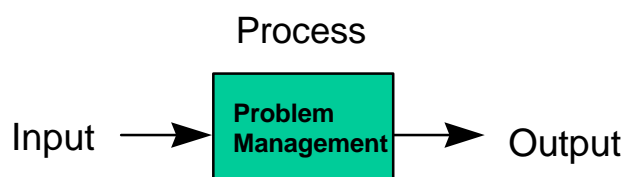
Figure 6: Process dependencies

Generic process characteristics
A logical improvement order can often also be found in the IPW^{tm} processes themselves (in each separate box). In practice it appeared that for an optimal course of the improvement project, the process should be assigned a number of generic process characteristics, which are then worked out using the best practices for the process. Due to the assignment of generic process characteristics, the execution of the process reaches an increasing level of quality. This is sometimes also called a higher development stage. The generic process characteristics apply to all IPW^{tm} processes. An example of a generic process characteristic is the performance of the primary process activities. For the incident management process these primary process activities are the best practices in the field of taking in,

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registering, routing, solving, and completing incidents. For the incident management process, the generic process characteristic "use of standards" translates into the use of reaction and solution times for incidents. By adding this angle to IPW[tm], the process improvement phases are worked out based on the arrangement of the generic characteristics of each process according to a logical improvement sequence. Table 1 shows a full enumeration of the generic process characteristics.

By defining combinations and/or selections of processes with associated levels, a number of development stages can be identified for an ICT organization as a whole. The definition of stages per process and for an organization as a whole based on IPW[tm] forms the core of the IPW Stadia Model[tm]. The resulting generic phasing of process improvement projects is partly inspired by the ideas behind CMM[sm] and SPICE. CMM[sm] and SPICE are specifically tuned to software development, and distinguish a number of maturity levels (stages) for the execution of processes. As the development processes of IPW[tm] are already worked out using models such as CMM[sm] and SPICE, these can automatically be used. The management processes in IPW[tm] did not yet have such an arrangement however. Drawing on experience with the improvement of management processes, the IPWSM[tm] provides for this. In order to be able to show the relationship between IPWSM[tm] and CMM and SPICE, the essence of both concepts is described in broad outline.

CMM

The Capability Maturity Model[sm], developed and maintained by the Software Engineering Institute (SEI), which is part of the Carnegie Mellon University in Pittsburgh, provides an arrangement into five maturity levels for software development. The first version of the model became available in 1991. In 1993 version 1.1 was introduced, and halfway through 2000 version 2.0 will become available. CMM[sm] distinguishes the following levels: initial, repeatable, defined, managed, and optimizing. Each level of maturity is associated with a number of so-called key process areas, which are worked out using common features, which in their turn are worked out using key practices. The CMM[sm] thus enables the software development organization to consciously choose a certain target level of maturity, and then to work towards that level. CMM[sm] has a strong prescriptive character, and an official assessment (is centrally registered world-wide) will result in "fully satisfied" only at a certain level when all necessary elements of that level have been worked out in full. Whether this is indeed the case is assessed under the direction of certified lead assessors, who have been especially trained for this purpose by the SEI. The elements associated with a certain level are explicit and specifically defined. In the USA organizations such as the Ministry of Defense and Boeing require that software suppliers have reached at least the CMM[sm] 3 level, or that they can show that they will reach this level within an acceptable period of time. Many software development organizations have therefore started software process improvement (SPI) projects to reach a higher CMM[sm] level. Also the number of professional software development organizations in Europe that do so is on the increase, not in the least because these projects (like improvement projects in the management domain) prove to yield enormous savings and to boost the effectiveness. Since the introduction of version 1.1 of CMM[sm], a number of derivatives have become available, including the Personal Software Process[sm] (PSP[sm]), which - unlike the more organization-oriented CMM[sm] - is specifically tuned to the improvement of the maturity level of individual software developers.

SPICE

Software Process Improvement and Capability dEtermination is a reference process model for software development developed by order of the International Standards Organization (ISO). The SEI was one of the organizations to assist in its development, which was initiated in 1992. SPICE is partly based on CMM[sm], but it is less specific in determining the elements that must be worked out for an organization to reach a certain maturity level. The first official release of SPICE is available right now (ISO 15504). If we compare this version with the CMM[sm] on the basis of the information now available, then we see that SPICE distinguishes five process categories, which can be divided into a total of 35 processes, which in their turn are worked out using some 200 base practices in total. Thus far, not much difference with CMM[sm], apart from the fact that the scope of SPICE is wider than that of CMM[sm] , and that some aspects have been elaborated in more detail. The process categories have a so-called thematic arrangement (customer/supplier, engineering, project, organization, and support). Six maturity levels are distinguished (not performed, informally, planned & tracked, well-defined, quantitatively controlled, and continuously improving). An important difference with CMM[sm] is that these levels are applied by process and not to organizations as a whole. The six levels are worked out

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with a total of 11 so-called common features and 26 generic practices. The model therefore offers a much more generic way of reaching a certain maturity level (stage), which links up well with the generic process characteristics that form the basis of the IPW Stadia Model[tm].

IPWSM[tm]
The IPW Stadia Model[tm] is a model that divides the IPW[tm] management processes, which form a superset of the processes from the ITIL library, into five process categories, and defines a number of process activities and best practices for all of these processes. Most of the best practices are taken from the ITIL library. Other best practices have been added for fields not provided for by ITIL. So far nothing new, as this was also the case in the IPW[tm] model. Apart from the fact that it mainly concerns management processes and not development processes, the arrangement is comparable with the arrangements used in CMM[sm] and SPICE. However the IPWSM[tm] adds the maturity level component, which is again comparable with that of CMM[sm] and SPICE. In the IPWSM[tm], six process stages are distinguished. These stages are: "not performed", "not identified", "monitored", "controlled", "proactive", and "improving" (Figure 7). The stages are worked out using the generic process characteristics already mentioned, which indicate the maturity level reached by the IPW[tm] process.
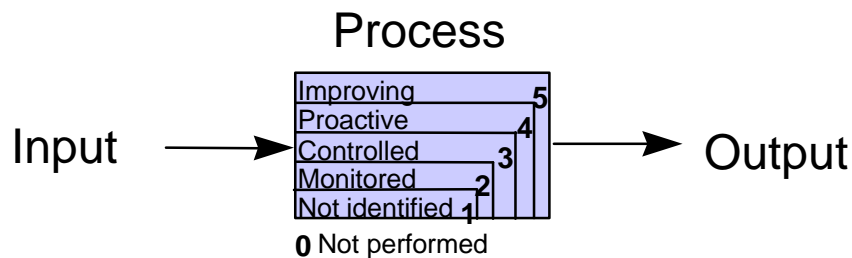

Figure 7: The IPWSM[tm] process stages

Stage 0: not performed. In this stage a process is not carried out at all, not even in an informal or implicit manner.

Stage 1: not identified. In this stage the primary process activities are (partly) carried out, but it is not recognized in any way. People are not aware that the process is carried out. The performance of the process takes place on an ad hoc basis, and has an implicit and informal character. The process is not described and there is no process registration.

Stage 2: monitored. In this stage the process is not only carried out, but also recognized as such. Furthermore the course of the process is measured. Although the process can in no way be controlled and therefore no corrective action can be taken, the course of the process is recorded. The process is partly described, but not yet standardized. In most cases the course of the process is monitored. The course of the process is also recorded. It is important that all actors are aware of and committed to the performance of the process. No roles have yet been defined for all process actors. No objectives have been set for the process, and therefore there are no process standards either. The process is not geared to other processes. In a crisis situation there is still a realistic risk of the process being by-passed.

Stage 3: Controlled. In this stage the process is under control. This means that in addition to the performance of the process (which is now standardized), registration and reporting, there is also control of the process. Corrective action is taken during the course of the process, and the performance of the process is planned. Resources (people, means & technology) become available. All necessary process actors have been given explicit roles. There still is an internal and retrospective approach however. There are objectives and therefore standards for the process, but these have been established internally and they are not tuned to the external environment. However, the process is geared to other related processes. In this stage the process is also always applied in crisis situations.

Stage 4: Proactive. In this stage the process is tuned to the external (customer) environment, which means that certain external objectives have been set for the process. There is an outside-in approach.

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During the process less surprise effects occur, as also the planning has a more prospective character. The organization of the processes is reactive as well as proactive, so that whenever possible action is taken before something goes wrong.

Stage 5: Improving. In this stage the course of the process is continuously adjusted based on planning, implementation, measurements, evaluation, audits, and reviews. This process improvement capability is embedded in the process itself. There is a so-called "double-loop learning", which means that the process does not only correct itself, but also adapts itself to new circumstances (adaptive process).

Process stage	Generic process characteristics	Customer value	Capability
0. not performed	• N/A.	• no value	• N/A
1. not identified	• ad hoc performance of (parts of) primary process activities	• no or little perceived value	• depending on chance, informal agreements and "heroes"
2. monitored	• (management) awareness and commitment • performance of primary process activities • measurement and analysis of the process • process reporting	• generic value	• to measure is to know • relevant activities take place primarily as part of the process and are therefore perceived • reporting forms the basis for thoughts about improvements
3. controlled	• defined standard course of the process • process roles have been allocated • training of process actors • resources available (people, means, tools) • planning of the process • process control • action is taken to correct the course of the process when (internal) standards are exceeded • (periodic) process audits	• extended value	• the (standard) course of the process can be controlled, and can therefore be corrected in case the standards are exceeded • the necessary capacity in terms of people and means is available and can be planned.
4. proactive	• the process is tuned to the external environment • action is taken to correct the course of the process even before (external) standards are exceeded • course of the process initiates communication with (customer) environment • (periodic) process reviews	• exceeding value	• the performance level required by the customer is perceived and is consciously and predictively aimed at • SLAs can be entered into which can also be fulfilled
5. improving	• corrective measures for the organization of the process, embedded in the process itself (adaptive process) • continuous audits and reviews • continuous increase in effectiveness and efficiency	• excelling value	• the service level required by the client can be exceeded

Table 1: Process stages, generic process characteristics, customer value and capability

Table 1 indicates the generic process characteristics that are associated with each stage. In IPWSM^{tm} these generic process characteristics have been linked to IPW^{tm} best practices by process. Table 1

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has been translated in this way into a complete set of tables for the IPW[tm] processes (one for each process).

The stages or maturity levels are directly linked with the (perceived) added value of the process for the customer (customer value), and they are worked out using the generic process characteristics. To indicate the added value, a Levitt-based model is used. This model describes the added value of products, but is just as much applicable to services. In this model the following layers are distinguished: generic, extended, exceeding, and excelling (Figure 8). As processes reach a higher IPWSM[tm] stage, more layers of the service are filled in, and the added value of the process for the customer increases.
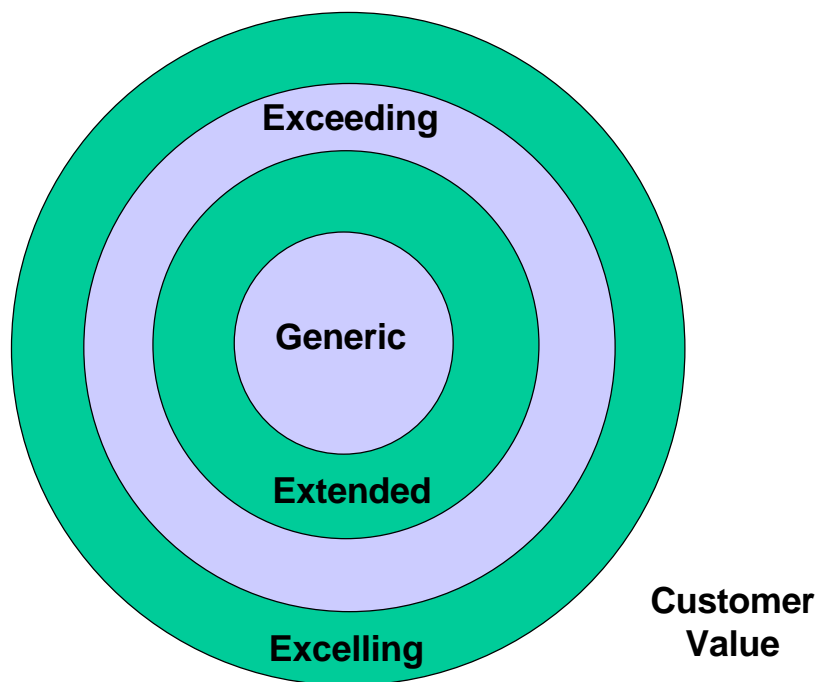

Figure 8: Levitt layered customer value

Compared with CMM and SPICE, the process maturity approach of the IPWSM[tm] is more similar to the SPICE approach than to the CMM approach, as CMM is more oriented towards the organization as a whole.

However, also the organization-wide CMM approach can be found in the IPWSM[tm] model, although the arrangement is focused more on management organizations. On the basis of a selection of processes and a maturity level associated with each process, five maturity levels have been defined for an ICT management organization as a whole. These stages in which an organization can find itself are: "initial", "operational monitoring", "operational control", "service control", and "service improving" (Figure 9). The arrangement can be used together with, or in addition to the process maturity levels mentioned earlier.
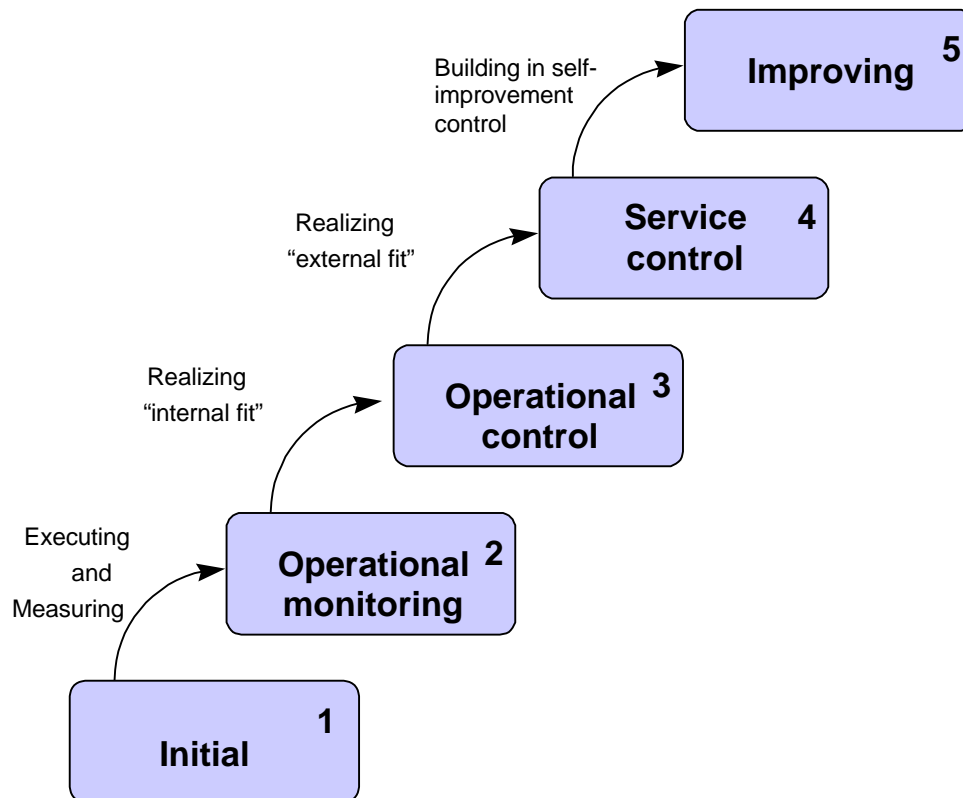
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Figure 9: IPWSM^tm organization stages

Stage 1: Initial. This stage is the "safety net" of the model. Each organization immediately qualifies for this quality level. Characteristics of an organization on this level are non-performance of agreements, and a type of control that is very much department-oriented. The organization displays compartmentalization, it is a functional "stovepiped" organization, work is carried out very reactively, little or nothing has been documented, and the organization is blind to the environment in which it operates. Solving problems (which are often passed on), or the provision of a service, or the supply of a product is reserved to a limited number of "heroes", who do everything in their power to keep it this way. There is no process registration or reporting, and activities are not planned. So people hardly know what they are doing. Work is mainly reactive, and production with a possible alternative is considered to be the only process. Most processes have the level of "not performed" in these organizations. The key production process is carried out and large-scale "fire fighting" (incident management) takes place. Although these processes are performed, people are not aware of them. This is also true for the processes of change management and software control & distribution. They are on the "not identified" level. To the extent that arrangements have been made, in crisis situations people immediately revert to the behavior described. An ICT organization in this stage often has no idea of its situation, and is therefore, ironically enough, generally quite satisfied with it, and finds it very difficult to start improvement activities. To get the organization to do so often requires external intervention (merger, outsourcing, reorganization, downsizing, etc.). The motto of this stage is: "The butterfly leads a happy life, because it does not know that it only lasts for one day".

Stage 2: Operational monitoring. In this stage the organization is in much better shape than in stage 1, although the perception of it may be different. The most important difference is that a number of processes which should be carried out by every ICT organization, are indeed carried out. These processes are not yet present to their full extent, but (as the name of this stage already indicates) they have been worked out on the monitored level. This means that the basic course of the process is present and that in any case data is collected about the activities carried out so that reporting can take place. Also a number of the tactical processes can already be performed, although they are often still in the not-identified stage. The organization is not yet able to also control its processes. There are no standards yet for the course of the process and therefore no corrective actions are taken. The most

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important value of reaching this stage is that data becomes available about the activities carried out, so that in the next stage plans can be made on the basis of this data. Furthermore, the different processes distinguished are not yet geared to one another. The ICT organization that has reached this stage becomes aware of what is actually going on, without it being able to do something about it right away. Although organizations are often woken up by it from a more or less quiet sleep, the feeling they tend to be left with after the shock is that it is still good to know what is happening. The motto of this stage is: "It's better to know what's happening, than to wonder why it happened".

Stage 3: Operational control. In this stage there is a so-called "internal fit". Most of the processes are planned and controlled on the basis of objectives and standards. Corrective action can be taken during the course of the process, although internal, self-chosen standards may still be used for this. The key operational processes and the primary process have reached the controlled stage, while a number of the tactical processes have reached the monitored stage. The ICT organization has its operational processes under control (hence the name of this stage), although this control exists in an isolated, "closed" environment. Nevertheless it is quite an achievement to have reached this stage. In the following stage the robustness of the process arrangement and the control can be tested against and geared to the external (customer) environment. An ICT organization that has reached this level shall in all probability celebrate, and rightly so, as now finally both the management and the employees are beginning to have a "hands-on" feeling. The mottos of this stage are: "The horizon is the limit" and "We have saddled the horse and we know how to ride IT".

Stage 4: Service control. In this stage there is a so-called "external fit" in addition to the "internal fit". This means that the organization has geared its internal control to the external (customer) environment in which it operates. The standards applied to the processes have been set by the customers. The customers also have actual influence on the service provided. The focus of an organization in this stage is therefore shifted from controlling the operation (organization, processes, technology) to controlling the service (tuning it to the customers). The planning has a proactive and forward-looking character and the processes themselves trigger the intended customer-orientation by always operating from this point of view. Many operational processes have already reached the proactive stage, while an important part of the tactical processes are in the controlled stage. Also a number of the strategic processes have come into the picture by now, of which the majority are in the controlled stage. An organization that has reached this stage can be proud - with good reason, as it is probably setting the standard on the market now. The motto of this stage is: "The sky is the limit" and "World-class service is the standard".

Stage 5: Service improving. An organization that has reached this stage adds to all quality characteristics reached in the previous stages, the capability to continuously adapt the course of the process itself to the internal and external environment. The operational, tactical and strategic processes have all reached the proactive or improving level. No organization improvement project is required anymore, because the individual processes themselves have reached a level at which they continuously improve themselves. The motto of this stage is: "The universe is the limit" and "Galaxy-class service is the standard".

Best of both worlds
When the CMM[sm] and SPICE concepts were applied to the IPW[tm] management processes, a "best of both worlds" approach was used, where the process-oriented approach (SPICE) forms the basis, and the organization-oriented approach (CMM[sm]) has added value if the situation of the relevant ICT organization gives cause for it. The first approach makes it possible to shape process improvement in the management domain with maximum flexibility, taking into account the specific context, while the latter approach allows the ICT organization as a whole to be certified at a certain level. For instance this latter possibility may be interesting when the ICT organization also wants to offer its services to third parties (outsourcing organizations). Table 2 shows a survey of the different organization stages and the associated process levels, based on an extended version of IPW[tm].

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IPW[tm] processes		IPWSM[tm] organization maturity levels				
Process group	Process	Initial	Operational Monitoring	Operational control	Service control	Service improving
Operations	Production	not identified	Monitored	controlled	proactive	improving
Service Support	Incident management	not identified	Monitored	controlled	proactive	improving
	Problem management	not performed	not performed	monitored	controlled	proactive/ improving
	Change management	not identified	Monitored	controlled	proactive	improving
	Software Control & Distribution	not identified	not identified	controlled	proactive	improving
	Configuration management	not performed	not performed	monitored	controlled	proactive/ improving
Service Delivery	Service level management	not performed	not performed	monitored	controlled	proactive/ improving
	Capacity management	not identified	not identified	monitored	controlled	proactive/ improving
	Availability management	not performed	not performed	monitored	controlled	proactive/ improving
	Cost management	not performed	not performed	monitored	controlled	proactive/ improving
	Contingency planning	not performed/ not identified	Monitored	controlled	proactive	improving
Strategic planning	Commercial Policy	not performed	not performed	monitored	controlled	proactive/ improving
	Personnel & Organisation	not performed	not performed	monitored	controlled	proactive/ improving
	Architectures	not performed	not performed	monitored	controlled	proactive/ improving
	Finance	not performed	not performed	monitored	controlled	proactive/ improving
Service Development	Depending on situation Worked out using CMM of SPICE and a custom arrangement					

Table 2: Organization stages and process stages, for extended version of IPW[tm]

Skipping stages
When defining improvement projects, there may be the tendency to skip a level when improving processes. There is no point in doing so, however, as in each stage the processes are assigned generic process characteristics which build on the level reached in the previous stage. Nevertheless it is possible to work out some of the aspects of a subsequent stage while not all aspects of the current stage have yet been satisfied. Also, when choosing target levels for each process, the organization stages do not have to be the only aspects to be considered. After all, these are generic, while a specific ICT organization may have different priorities due to its "own" problems or special circumstances. In this way the process stages can be used to define "custom" organization stages. In doing so, the external reference to the IPWSM[tm] organization stages is indeed lost, but this reference is certainly not relevant for all organizations.

Additional value of IPWSM[tm]
IPWSM[tm] should not be seen as a replacement of the IPW[tm] model, but merely as an addition to it. Using the maturity levels (stages) for each process, the seemingly unmanageable 1- to 3-year project required to achieve an integral and lasting result, can be made more manageable. The IPWSM[tm] model also allows the definition of a target level of maturity for each separate process of a transition project. It also allows any interim results to be made explicit as different sets of processes together with the maturity levels defined for them, while previously often processes as a whole were chosen for this purpose. In addition, the definition of the generic process characteristics stores a treasury of

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knowledge about the logical order to follow in order to reach a higher process level. This means that the generic process characteristics as well as the list of ITIL/IPW[tm] activities and best practices also offer a valuable reference for drawing up plans for improvement projects. This knowledge was of course already an implicit part of the baggage of the organization improvers involved, but in this way, the relevant experience is also made explicit. The IPWSM[tm] can also be an excellent tool for assessing the capability of providers of IT services, such as outsourcing companies, as an IPWSM[tm] assessment may predict which service level they are able to provide. This is relevant for both the outsourcing organization and the outsourcing partner. Table 3 shows once again how the development of the processes leads to higher organization stages.

	prod	service support					service delivery					Strategic			
	pd	im	pm	chm	scd	cm	slm	cap	avm	cos	cont	cp	po	ac	fn
1 initial															
2 operational monitoring															
3 operational control															
4 service control															
5 service improving															

not performed	not identified	monitored	controlled	proactive	improving

Table 3: Development of process stages in relation to the development of the organization

Just to be perfectly clear, it is said once again that the IPW Stadia Model[tm] does not dictate a specific order of processes, as the priorities still depend on the logical order and the interrelationship of the processes in IPW[tm], as well as the specific circumstances of the target organization. These priorities can be established on the basis of the analysis phase. Once these priorities have been established however, a logical development path is sketched by the different maturity levels and the associated generic process characteristics. In line with practical experience, this makes it possible to start with more processes while still keeping the project manageable and well-defined in terms of time. Figure 10 is a graphical representation of the relationship between IPW[tm] and IPWSM[tm]. For the analysis phase, a powerful assessment method is available (QuintQuest), which can be used to evaluate the process stages and therefore the organization stage. The assessment can be visualized in a so-called stages profile, which can be considered to be a "snapshot" of the situation at a certain point in time.
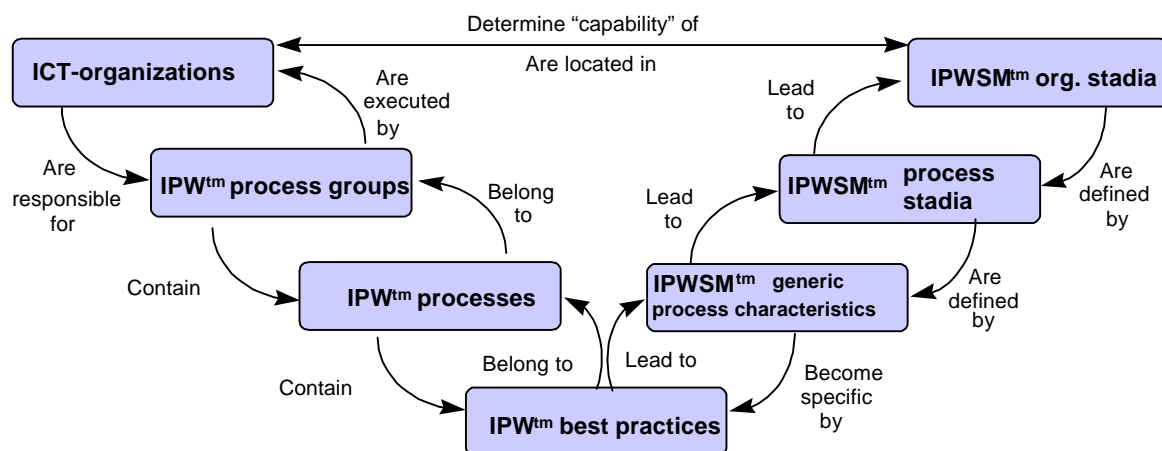

Figure 10: Relationship between IPW[tm] and IPWSM[tm]

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Product portfolio and future

The product portfolio of IPW^{tm} and IPWSM^{tm} includes the process model, the process groups, the processes, the best practices, the division into stages of maturity on process and organizational level, the cross-reference to CMM^{sm}, and the associated assessment method (QuintQuest). Courses in process improvement using IPWSM^{tm} and the cross-reference to SPICE are available now. For ICT organizations IPWSM^{tm} is partly publicly available. The other part is available if an organization improvement project is started under the supervision or direction of Quint Wellington Redwood organization improvers. The future may also see the development of courses in the use of the complete product portfolio, intended for assessors and organization improvers. A certification program will then be essential. In that way, the entire IPW Stadia Model^{tm}, including assessment method and best practices library, could be licensed to ICT organizations. Automated support for organization improvement on the basis of IPWSM^{tm} is one of the options being studied. Spin-off products such as a personal management process - following the PSP^{sm} - may also be possible. Depending on the success of IPWSM^{tm} and the enthusiasm of the market, these possibilities are given the appropriate follow-up.

Conclusions

IPWSM^{tm} is an extremely powerful tool for structuring and shaping improvement projects in ICT organizations in a non-authoritative manner. To this end, the model distinguishes a number of stages of maturity, both at process level and at organizational level. Following an assessment to evaluate the organization and/or the processes it performs, an improvement plan is drawn up, taking into account the specific circumstances of the organization. After realization of the improvement plan (or in between) the situation can once again be tested against the model by carrying out a repeat assessment.

Of course the success of an ICT organization depends on a multitude of factors. For instance, the ability to attract and keep competent professionals, the technology used, and the knowledge of the market for which the organization has been established, are all just as important as the maturity stage of the execution of the processes. And yet in practice it turns out that once organizations have come to know the flywheel effect of process improvement, these organizations are able to realize a dramatic improvement in performance and success. "Fix the process, not the problem!" is what Sirkin & Stalk already said in 1990. In 1998 this appears to be more applicable than ever. The power of the IPW Stadia Model^{tm} is mainly based on the fact that it is not a theoretical frame, but a model that originated from actual practice and the experience of leading organization improvers. In addition, it is consistent with the ideas prevailing in the world of process improvement in the development domain and with the ideas about quality management in general. The all-important thing however is that it really works!

Although the basic version of the model was already defined in 1995, published for the first time in 1998. In the intervening time, behind the scenes of many key ICT organization improvement projects, it has been continuously tested on consistency and applicability and adapted to the latest developments. The current product portfolio offers interesting possibilities for extension or the development of spin-off products. The model has proven to be as successful as IPW™ itself.

If you would like to know more about IPW^{tm}, IPWSM^{tm}, SPI, PSP^{sm} CMM^{sm}, or SPICE, please contact Quint Wellington Redwood organizational improvement (Internet: www.quintgroup.com, e-mail: hans.van.herwaarden@quint.nl).

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