## Chapter 1 : Scrum Methodology and Project Management

*a means to an end a thing that is not valued or important in itself but is useful in achieving an aim. End and means are compared or contrasted in several proverbial sayings, for example the end justifies the means (see end) and he who wills the end wills the means.*

Answering this question is by no means straight-forward. These are not problems that cause frustration only at the undergraduate level, but that accompany many scholars their entire careers. In fact, at a meeting I attended a few weeks ago on how to apply for research funding from the European Research Council , one of the concerns that the Council regularly had with applications was that scholars did not provided a good methodology section. So if you are a student, and you are confused, remember that you share that confusion with many of the professionals. What makes questions of method and methodology so thorny is that the answers depend on the respective discipline and on the particular research project. In this post, I will try to highlight different perspectives on this topic, as well as options for coming to grips with methods and methodologies. This usually includes defining the scope of the research project, coming up with a research question or hypothesis, selecting and collecting data, processing that data with certain tools to enable analysis, and then going through the data systematically to answer the central question. In other words, methods are the tools you use to do your research. So what is a methodology? In essence, methodology is the discussion of methods. A methodology section in a research paper needs to achieve three things, though not necessarily in this order: Firstly, it should consider what the nature of academic work is more generally, and what this might mean for anyone who explores the topic at hand. Secondly, it needs to provide a literature review, discussing what methods researchers have traditionally used to study the kind of topic that the project focuses on. Thirdly, it should explain what methods this particular project uses and why. The first issue is a question of epistemology , the philosophy of knowledge. Crucial epistemological questions include: What have different intellectual schools said on these issues, and what do our own answers to these questions say about the value of our research project? What do they say about the value of academic work in general? These are debates that have occupied thinkers for millennia, and no-one would expect you to answer them in a term paper or thesis. Nevertheless, the practical methods you use to study your subject come with certain assumptions, so it would be a good idea to demonstrate that you are aware of what these are. These are by no means trivial questions, and even though they are theoretical, they have very real implications for how you conduct your own research. Next, you might want to review what experts in the field have said about the value and drawbacks of using surveys, about the relation between information and human behaviour, and about the problems of establishing causalities between different variables. A note on positivism as a research tradition would also probably be wise. Finally, you should explain where you got your data and what exactly it is you plan to do with it. Similarly, if you are studying policy documents to find out what the agenda of a specific government is, you would be well advised to think about epistemological questions like the value that such documents might have as an indication of political preferences, about the nature of political decision-making, or about the various philosophical traditions that have debated whether the language in such sources reflects certain beliefs or conjures them into being or maybe both? How you then go on to select and study the actual documents will likely follow from your answers to these questions. How methodology connects to theory As these examples already show, methodological discussions are both theoretical and practical in nature. This is also what makes writing a methodology section for an article or a thesis so hard. It can be difficult to draw a line between a typical theory chapter and the epistemological discussion of the methods you used. Do you now need to include a second theoretical chapter that discusses how we can know about the system of states? The answer is not straight forward, and will strongly depend on what you are trying to achieve. Overall, it can help to see this overlap between theory and methodology not as a problem but as an opportunity. From there, it is only a small step to outlining what data your research project uses, and what work-steps you took. In this case, the methodology is the puzzle piece that sits between broader theoretical debates and actual hands-on research work. Nevertheless, it is quite common to get the balance wrong between the theoretical and the practical

aspects of a methodology. Imagine a term paper that sets out to study a particular case of how people use digital media in everyday life. The case study will consist of observing and interviewing teenagers in a particular high school in Seoul to see how they use mobile phones during school hours. The paper could discuss at great length the nature of human knowledge without ever mentioning why this particular high school was chosen, how the researcher conducted the interviews, how the participants were observed, or how the interviews and research notes were later analysed to arrive at a conclusion. This would be a paper that got its emphasis wrong, remaining almost entirely in the philosophical realm of epistemology. How you get this balance between theory and practice right will have to be a question you answer on a case-to-case basis. There are certainly projects that do not require a lot of practical work-steps but instead focus more on epistemology. For instance, if you plan to write a paper about a famous philosopher, you might only need one footnote to explain what texts you used and how you went about interpreting them. The question of what an interpretation is or why these philosophical texts matter will be much more central to your study, so that your methodology section will likely focus primarily on these issues. As another example, imagine you are running statistical tests on the relation between different demographic and economic variables in Taiwan, using a dataset published by the United Nations and studied widely by economists. It may not be necessary to go into long discussions about how something like the Gross Domestic Product gets calculated, and what these numbers tell us about incomes in an economy â€" a few footnotes to other scholars who have discussed these matters will be enough to show that you are aware of such debates. The more interesting questions for your case might be how you set up your statistical calculations and how you went about visualizing the results for your readers. The methodology section of such a study might therefore be rather light on epistemology but heavy on the nitty-gritty practical issues of using this particular data set. Where in a thesis does the methodology section go? The same is true for conventions on how to write up a methodology section. In some disciplines, notably the life sciences and certain social sciences, it is customary to write within a standard framework: In other areas, particularly in the arts and humanities or in branches of the social sciences that are less positivistic, the setup can be much looser. Questions of methodology might make up a paragraph in the introduction, or the last section of the theory chapter, or the first section of the case study, or even a number of footnotes throughout the study. The scope of the methodological section will also depend on the level you are working at: In such a case, it would be wise to include at least a note on what a literature review is, what it can achieve, and what considerations went into picking this set of secondary sources rather than another for inspiration, see Hart  At the level of a doctoral thesis, the situation is quite different. Such projects usually have fully-fledged methodology chapters, often with sub-sections to discuss epistemological questions, the selection of research materials, and the exact steps taken to conduct the study. You will have to decide where you belong on this scale. Two examples of how to deal with methodology To show you how methodological concerns play out in practice, let me walk you through two hypothetical research projects at the graduate level that each deal with an aspect of politics in East Asia. These are the two projects: Here are the choices that Alice and Becky are making as they are working on their projects. Case A â€" Confucian thought in contemporary Chinese politics: This literature will later go into a first chapter, in which Alice plans to outline the main issues and debates, along with a few theoretical ideas about how appeals to tradition are said to legitimate political decisions. As Alice works on her project, she decides that the methodological discussions should go at the start of the thesis, in the introduction. She will write a paragraph about her choice of sources, including a footnote on how she will reference these sources throughout the text. She will then include an additional methodological section at the start of her analysis chapter, right after the theoretical discussion of how and why political agents appeal to tradition to justify their policies. Case B â€" NHK news coverage of the disaster: Since Becky wants her study of Japanese media to include quite a few technical elements, like the way that camera angles and studio design contribute to news reporting, she decides to discuss her methodology in a special chapter. Her research focus will be on how a national broadcaster contributes to knowledge about nuclear energy. To this end, she plans to include a theory chapter that examines how academics usually make sense of mass media and its role in political processes. This is also where she will discuss the works of Japanese media theorists who have written on politics and culture in Japan. This chapter

is going to have three sub-sections. The first part will follow up on the issues she raised in her theory chapter like: What are TV news? Does an image on TV represent the actual situation on the ground, or are such images selected and edited in ways that introduce visual rhetoric and specific tropes, biasing the news reports in the process? What does this mean for a person who now analyses these news materials? To explore this issue, Becky will discuss approaches to visual communication analysis , such as semiotics. In the second section of her methodology chapter, she will explain why she picked NHK as a source of material, and which news broadcasts she picked for instance: The third part of the chapter will discuss the exact work-steps that Becky followed to prepare the material for analysis and interpret her data. She decides that this will include creating sequence protocols of the news broadcasts, and then providing shot protocols for particularly important segments. Since her actual analysis will consist of a mixed quantitative and qualitative approach, she will explain what this means in this third section of her methodology chapter: In this section, she will also explain that she is compiling all of her data in an appendix, and that she will include graphics and statistics in tables throughout the actual analysis chapter. She will compare the reporting before and after the disaster, and discuss the implications in her conclusion â€" where she will tie her own work back to the theoretical concerns she raised in her theory chapter. She will also have a paragraph in her conclusion that outlines what her approach left out and why. To show that she understands the limitations of her research, she will also suggest what kinds of follow-up studies could now shed light on any remaining questions. Her last paragraph will be a forceful argument about how national news play a powerful role in not simply reporting but actually constructing political crises. Conclusion As you can see, there is no single answer to how you should build theory, methodology, and method into your research project. The best advice I can give, is: They know your field, and they will be the ones judging your work, so you should always see what their specific requirements are. As with all good writing, keep your audience in mind. You may want to also take a look at my own discussions of methodology, for instance my blog post on how to do a discourse analysis which is about methods or how to set up such an analysis which includes epistemological questions. If you are currently working on your methodology, or you are instructing others on how to do so, feel free to leave a comment below. References Goodin, Robert E. A New Handbook of Political Science. Oxford University Press pp. Los Angeles et al.: Thousand Oaks, CA et al.:

## Chapter 2 : Means-ends analysis - Wikipedia

*Today we consider a project management methodology as a set of broad principles and rules to manage a specific project that has a definite beginning and end. Below is the current definition of methodology.*

Scrum Scrum Scrum is an agile way to manage a project, usually software development. Agile software development with Scrum is often perceived as a methodology; but rather than viewing Scrum as methodology, think of it as a framework for managing a process. In the agile Scrum world, instead of providing complete, detailed descriptions of how everything is to be done on a project, much of it is left up to the Scrum software development team. This is because the team will know best how to solve the problem they are presented. This is why in Scrum development, for example, a sprint planning meeting is described in terms of the desired outcome a commitment to a set of features to be developed in the next sprint instead of a set of Entry criteria, Task definitions, Validation criteria, Exit criteria ETVX and so on, as would be provided in most methodologies. Scrum relies on a self-organizing, cross-functional team. The scrum team is self-organizing in that there is no overall team leader who decides which person will do which task or how a problem will be solved. Those are issues that are decided by the team as a whole. And in Scrum, a team is cross functional, meaning everyone is needed to take a feature from idea to implementation. Within agile development, Scrum teams are supported by two specific roles. The product owner PO is the other role, and in Scrum software development, represents the business, customers or users, and guides the team toward building the right product. The Scrum model suggests that projects progress via a series of sprints. In keeping with an agile methodology, sprints are timeboxed to no more than a month long, most commonly two weeks. Scrum methodology advocates for a planning meeting at the start of the sprint, where team members figure out how many items they can commit to, and then create a sprint backlog â€" a list of the tasks to perform during the sprint. During an agile Scrum sprint, the Scrum team takes a small set of features from idea to coded and tested functionality. At the end, these features are done, meaning coded, tested and integrated into the evolving product or system. On each day of the sprint, all team members should attend a daily Scrum meeting, including the ScrumMaster and the product owner. This meeting is timeboxed to no more than 15 minutes. During that time, team members share what they worked on the prior day, will work on that day, and identify any impediments to progress. The Scrum model sees daily scrums as a way to synchronize the work of team members as they discuss the work of the sprint. At the end of a sprint, the team conducts a sprint review during which the team demonstrates the new functionality to the PO or any other stakeholder who wishes to provide feedback that could influence the next sprint. This feedback loop within Scrum software development may result in changes to the freshly delivered functionality, but it may just as likely result in revising or adding items to the product backlog. Another activity in Scrum project management is the sprint retrospective at the end of each sprint. The whole team participates in this meeting, including the ScrumMaster and PO. The meeting is an opportunity to reflect on the sprint that has ended, and identify opportunities to improve. The Main Artifacts The primary artifact in Scrum development is, of course, the product itself. The Scrum model expects the team to bring the product or system to a potentially shippable state at the end of each Scrum sprint. The product backlog is another artifact of Scrum. This is the complete list of the functionality that remains to be added to the product. The product owner prioritizes the backlog so the team always works on the most valuable features first. The most popular and successful way to create a product backlog using Scrum methodology is to populate it with user stories, which are short descriptions of functionality described from the perspective of a user or customer. In Scrum project management, on the first day of a sprint and during the planning meeting, team members create the sprint backlog. The sprint backlog is the list of tasks the team needs to perform in order to deliver the functionality it committed to deliver during the sprint. Additional artifacts resulting from the Scrum agile methodology is the sprint burndown chart and release burndown chart. Burndown charts show the amount of work remaining either in a sprint or a release, and are an effective tool in Scrum software development to determine whether a sprint or release is on schedule to have all planned work finished by the desired date. The Agile Scrum Project: In the Scrum process, a ScrumMaster differs from a

traditional project manager in many ways, including that this role does not provide day-to-day direction to the team and does not assign tasks to individuals. A good ScrumMaster shelters the team from outside distractions, allowing team members to focus maniacally during the sprint on the goal they have selected. While the ScrumMaster focuses on helping the team be the best that it can be, the product owner works to direct the team to the right goal. The product owner does this by creating a compelling vision of the product, and then conveying that vision to the team through the product backlog. The third and final role in Scrum project management is the Scrum team itself. Although individuals may join the team with various job titles, in Scrum, those titles are insignificant. Scrum methodology states that each person contributes in whatever way they can to complete the work of each sprint. This does not mean that a tester will be expected to re-architect the system; individuals will spend most and sometimes all of their time working in whatever discipline they worked before adopting the agile Scrum model. But with Scrum, individuals are expected to work beyond their preferred disciplines whenever doing so would be for the good of the team. One way to think of the interlocking nature of these three roles in this agile methodology is as a racecar. The Scrum team is the car itself, ready to speed along in whatever direction it is pointed. The product owner is the driver, making sure that the car is always going in the right direction. And the ScrumMaster is the chief mechanic, keeping the car well tuned and performing at its best. Recommended Resources Related To Scrum.

*A methodology is a system of methods and principles for doing something, for example for teaching or for carrying out research. Teaching methodologies vary according to the topic. American English: methodology.*

Definition, Types, Examples project management methodology definition Without a doubt, a properly defined and strictly followed methodology for managing a project provides a firm guarantee that the job will be done on time, under budget and as per client specification. What is a project management methodology? How can it be defined? In simple terms, it is a must-have to avoid failure and reduce risks because it is one of the critical success factors as well as the core competency of the management team. It is the straightforward way to guide the team through the development and execution of the phases, processes and tasks throughout the project management life-cycle. What is a Methodology? Communication and collaboration were the key criteria for establishing productive work relationships between the teams and departments within one and the same organization. Since that time, the term has been changed and modified many times, new definitions have been created, new elements and functions have been added. Today we consider a project management methodology as a set of broad principles and rules to manage a specific project that has a definite beginning and end. Below is the current definition of methodology. Project Management Methodology is a strictly defined combination of logically related practices, methods and processes that determine how best to plan, develop, control and deliver a project throughout the continuous implementation process until successful completion and termination. It is a scientifically-proven, systematic and disciplined approach to project design, execution and completion. The purpose of project methodology is to allow for controlling the entire management process through effective decision making and problem solving, while ensuring the success of specific processes, approaches, techniques, methods and technologies. Typically, a methodology provides a skeleton for describing every step in depth, so that a project manager will know what to do in order to deliver and implement the work according to the schedule, budget and client specification. Referring to the mentioned definition, an appropriately chosen project management methodology paves the way for gaining the following achievements: PM framework focuses on the realization of desired change in line with a chosen methodological approach. Actually, change is the core aspect that should be managed. PM framework identifies and defines how to best manage change. Managing projects means describing and performing the activities required to meet the specific objectives of making change. For example, writing a book is a kind of project in which the objective is to write a book. This objective can be fulfilled by a series of activities, including defining the topic, collecting material, creating a draft, typing, proofreading, others. So in terms of project management, the author needs to define and then complete all the necessary activities in order to write a book which means make change. PM framework is a structured collection of all relevant knowledge on how to make change methodologically. In this regard, project management methodology can be defined as a level of PM framework. PM Framework precedes Methodology which in turn precedes Lifecycle Stages and determines the project management Processes, Tasks and Activities Methodology Types In project management there are a variety of approaches and methods that can be employed in managing different kinds of project. All the types of project methodology can be conditionally divided into traditional and modern approaches. Traditional Approach A traditional approach involves a series of consecutive stages in the project management process. It is a step-by-step sequence to design, develop and deliver a product or service. It entails achieving the succession in the implementation process and provides the benefits of milestone-based planning and team building. The following stages are included the traditional project management methodology:

## Chapter 4 : The Army War College Model

*Hypernyms ("methodology" is a kind of): method (a way of doing something, especially a systematic way; implies an orderly logical arrangement (usually in steps)) Hyponyms (each of the following is a kind of "methodology").*

The chart indicates that technical performance i. This chart illustrates the schedule performance aspect of EVM. It is complementary to critical path or critical chain schedule management. Figure 3 shows the same EV curve green with the actual cost data from Figure 1 in red. It can be seen that the project was actually under budget, relative to the amount of work accomplished, since the start of the project. This is a much better conclusion than might be derived from Figure 1. Figure 4 shows all three curves together â€" which is a typical EVM line chart. The best way to read these three-line charts is to identify the EV curve first, then compare it to PV for schedule performance and AC for cost performance. It can be seen from this illustration that a true understanding of cost performance and schedule performance relies first on measuring technical performance objectively. This is the foundational principle of EVM. Scaling EVM from simple to advanced implementations[ edit ] The foundational principle of EVM, mentioned above, does not depend on the size or complexity of the project. However, the implementations of EVM can vary significantly depending on the circumstances. In many cases, organizations establish an all-or-nothing threshold; projects above the threshold require a full-featured complex EVM system and projects below the threshold are exempted. Another approach that is gaining favor is to scale EVM implementation according to the project at hand and skill level of the project team. Still, lightweight implementations of EVM are achievable by any person who has basic spreadsheet skills. In fact, spreadsheet implementations are an excellent way to learn basic EVM skills. The first step is to define the work. This is typically done in a hierarchical arrangement called a work breakdown structure WBS although the simplest projects may use a simple list of tasks. In either case, it is important that the WBS or list be comprehensive. It is also important that the elements be mutually exclusive , so that work is easily categorized in one and only one element of work. The most detailed elements of a WBS hierarchy or the items in a list are called activities or tasks. The second step is to assign a value, called planned value PV , to each activity. For large projects, PV is almost always an allocation of the total project budget, and may be in units of currency e. Assigning weighted values and achieving consensus on all PV quantities yields an important benefit of EVM, because it exposes misunderstandings and miscommunications about the scope of the project, and resolving these differences should always occur as early as possible. Some terminal elements can not be known planned in great detail in advance, and that is expected, because they can be further refined at a later time. The third step is to define "earning rules" for each activity. These simple earning rules work well for small or simple projects because generally each activity tends to be fairly short in duration. These initial three steps define the minimal amount of planning for simplified EVM. The final step is to execute the project according to the plan and measure progress. When activities are started or finished, EV is accumulated according to the earning rule. This is typically done at regular intervals e. In fact, waiting to update EV only once per month simply because that is when cost data are available only detracts from a primary benefit of using EVM, which is to create a technical performance scoreboard for the project team. In a lightweight implementation such as described here, the project manager has not accumulated cost nor defined a detailed project schedule network i. While such omissions are inappropriate for managing large projects, they are a common and reasonable occurrence in many very small or simple projects. Any project can benefit from using EV alone as a real-time score of progress. One useful result of this very simple approach without schedule models and actual cost accumulation is to compare EV curves of similar projects, as illustrated in Figure 5. In this example, the progress of three residential construction projects are compared by aligning the starting dates. If these three home construction projects were measured with the same PV valuations, the relative schedule performance of the projects can be easily compared. Because earned value schedule metrics take no account of critical path data, big budget activities that are not on the critical path have the potential to dwarf the impact of performing small budget critical path activities. This can lead to "gaming" the SV and SPI metrics by ignoring critical path activities in favor of big budget activities that may have lots of float. This can

sometimes even lead to performing activities out-of-sequence just to improve the schedule tracking metrics, which can cause major problems with quality. A simple two-step process has been suggested to fix this: Create a second earned value baseline strictly for schedule, with the weighted activities and milestones on the as-late-as-possible dates of the backward pass of the critical path algorithm, where there is no float. In this way, the distorting aspect of float would be eliminated. There would be no benefit to performing a non-critical activity with lots of float until it is due in proper sequence. Also, an activity would not generate a negative schedule variance until it had used up its float. Under this method, one way of gaming the schedule metrics would be eliminated. The only way of generating a positive schedule variance or SPI over 1. Earned schedule Advanced implementations integrating cost, schedule and technical performance [ edit ] In addition to managing technical and schedule performance, large and complex projects require that cost performance be monitored and reviewed at regular intervals. In large implementations, the planned value curve is commonly called a Performance Measurement Baseline PMB and may be arranged in control accounts, summary-level planning packages, planning packages and work packages. In large projects, establishing control accounts is the primary method of delegating responsibility and authority to various parts of the performing organization. Large projects require more elaborate processes for controlling baseline revisions, more thorough integration with subcontractor EVM systems, and more elaborate management of procured materials. The standard defines 32 criteria for full-featured EVM system compliance. Other countries have established similar standards. Additional acronyms and formulas include: If a project has a management reserve MR , it is typically not included in the BAC, and respectively, in the performance measurement baseline.

## Chapter 5 : Earned value management - Wikipedia

*When Software Development is Your Means Not Your End: Abstracting Agile Methodologies for End-User Development and Analytic Application Troy Martin Hughes.*

There are several ways to develop software, two of the most prominent methods being waterfall and Agile. And as anytime there are two ways to go about something, a debate rages about which is best. Does it matter really? What is the waterfall methodology? Much like construction and manufacturing workflows, waterfall methodology is a sequential design process. This means that as each of the eight stages conception, initiation, analysis, design, construction, testing, implementation, and maintenance are completed, the developers move on to the next step. Advantages of the Waterfall Methodology 1. The waterfall methodology stresses meticulous record keeping. Having such records allows for the ability to improve upon the existing program in the future. With the waterfall methodology, the client knows what to expect. Disadvantages of the Waterfall Methodology 1. Waterfall methodology relies heavily on initial requirements. However, if these requirements are faulty in any manner, the project is doomed. If a requirement error is found, or a change needs to be made, the project has to start from the beginning with all new code. The whole product is only tested at the end. If bugs are written early, but discovered late, their existence may have affected how other code was written. Additionally, the temptation to delay thorough testing is often very high, as these delays allow short-term wins of staying on-schedule. If the client realizes that they need more than they initially thought, and demand change, the project will come in late and impact budget. When should you use waterfall methodology? When there is a clear picture of what the final product should be. When definition, not speed, is key to success. Instead of a sequential design process, the Agile methodology follows an incremental approach. Developers start off with a simplistic project design, and then begin to work on small modules. The work on these modules is done in weekly or monthly sprints, and at the end of each sprint, project priorities are evaluated and tests are run. These sprints allow for bugs to be discovered, and customer feedback to be incorporated into the design before the next sprint is run. The process, with its lack of initial design and steps, is often criticized for its collaborative nature that focuses on principles rather than process. Advantages of the Agile Methodology 1. The Agile methodology allows for changes to be made after the initial planning. Re-writes to the the program, as the client decides to make changes, are expected. At the end of each sprint, project priorities are evaluated. This allows clients to add their feedback so that they ultimately get the product they desire. The testing at the end of each sprint ensures that the bugs are caught and taken care of in the development cycle. Because the products are tested so thoroughly with Agile, the product could be launched at the end of any cycle. Disadvantages of Agile Methodology 1. With a less successful project manager, the project can become a series of code sprints. If this happens, the project is likely to come in late and over budget. When should you use Agile methodology? When rapid production is more important than the quality of the product. When clients will be able to change the scope of the project. When you have skilled developers who are adaptable and able to think independently. When the product is intended for an industry with rapidly changing standards. Both the Agile and waterfall methodologies have their strengths and weaknesses. The key to deciding which is right for you comes down to the context of the project. Is it going to be changing rapidly? If so, choose Agile. Do you know exactly what you need? Then maybe waterfall is the better option. Consider taking aspects of both methodologies and combining them in order to make the best possible software development process for your project. Do you prefer the Agile or waterfall methodology? Have you ever tried combining the two? How did that work out? Let us know in the comments section, or join the conversation on Facebook , Twitter , or LinkedIn. Thank to ihasb33r for the use of their respective photographs.

*The means-end approach using the laddering interviewing technique provides a proven method for researchers to uncover underlying motives and decision processes, and is the basis for our MaxMessage™ solution, which provides powerful communications that move consumers to action and build brand loyalty.*

Richard Yarger and George F. Army War College, While strategy is surely an art it is also a science, in that it follows certain patterns which require a common understanding of terminology, adherence to certain principles, and application of disciplined and creative thought processes. Therefore, the development of national security strategy lends itself to a methodology that can aid the strategist through the major steps in the process from the determination of interests to an effective strategy. This paper provides the Army War College methodology for the development of National Security Strategy and supporting strategies keyed to the elements of national power. The following illustration outlines the major steps in this methodology. This methodology is not a formula that yields a perfect strategy. It is merely a guideline that assists the strategist in considering the multiple components and issues of strategy formulation. Strategy will be developed in keeping with particular features of the time, place, circumstances, and personalities involved. The following guidelines offer an approach to address the complexity of strategy, and offer the strategist hope of achieving the coherence, continuity, and consensus that policy makers seek in developing and executing national security. National Values National Security Strategy is derived from an assessment of our national values as they exist in the global environment. These values provide our sense of national purpose. Values are expressed in Presidential Proclamations as illustrated by the Monroe Doctrine and the Emancipation Proclamation. The current National Security Strategy document identifies core American values. Historical actions and reactions and public opinion often express values since values are situational and are modified over time. Values are also often contradictory of one another. A strategist must be cognizant of national values. National Interests Nations, like individuals, have interests--derived from their innate values and perceived purposes--which motivate their actions. They provide the focus of our actions, and are the starting point for determining national objectives and the formulation of national security policy and strategy. Interests are expressed as desired end states. Interest statements do not include verbs or action modifiers. National independence and territorial integrity. The survival of an independent Israel. Access to raw materials. Protect sources of raw materials. Unrestricted passage through international waters. Theorists in political science group interests in categories to show the major types of interests and apply levels of intensity to show the priority or criticality of an interest. Using a composite of the approaches developed by Nuechterlein and Blackwill, the Army War College methodology groups national interests into four categories and three levels of intensity. Categories are means to help organization. Keep in mind the breakdown is somewhat artificial and an interest may spill over into multiple categories. Thus, while "access to Persian Gulf Oil" as a U. Refers to protection against attack on the territory and people of a nation-state in order to ensure survival with fundamental values and political systems intact. It generally means physical security. Refers to the attainment of conditions in the international environment that insure the economic well-being of the nation. Refers to establishment of the legitimacy of or the expansion of the fundamental values of the nation such as free trade, human rights, democracy, etc. Refers to those end states that promote conditions that are favorable to the values and fundamental purposes of the nation, such as stability and democratic governments. Intensity of interests is a means to determine priority or criticality of interests, recognizing that without prioritization, there is the potential for the mismatch of objectives ends with resources means. The three degrees of intensity are determined by answering the question: What happens if the interest is not realized? The Army War College uses the following three levels of intensity: The assignment of a "peripheral" level of intensity does not mean necessarily that the interest will not be addressed. It simply provides a relative perspective of the significance of the interest in relation to national well being. Other activities of government use different models. The current National Security Strategy document lists three degrees of intensity—vital, important, and humanitarian. The latter, of course, does not convey a priority. After the sorting out of interests by category and intensity using the general criteria

above, the next step is the strategic appraisal. The strategic appraisal examines the domestic and international environments to ascertain the forces and trends that affect national interests and determine the resultant threats and opportunities. In assessing the relationship of an external threat to a national security interest, the USAWC uses the following Blackwill criteria to analyze the effects on an interest: It is important that this step take place after the sorting out of interests by category and intensity. The degree of intensity of an interest, in particular, should be determined before a detailed analysis of threats to those interests. It is critical that interests not become a function of a particular threat. If a government begins with a threat assessment before a conceptualization of interests and intensities, it risks reacting to a threat with major commitments and resources devoid of any rational linkage to the relative criticality of interests. Rational cost-benefit analysis should not be allowed to affect the intensity of interest. We may choose to defend a peripheral U. Or we may choose not to defend vigorously an important U. The appraisal must be more than a listing of issues or challenges. To be useful, an appraisal must analyze and explain which and in what ways U. The assessment should seek to identify opportunities and threats in regard to U. As part of this process the appraisal examines the national policy and helps identify recommendations to change existing policies. The following is an outline for developing a strategic appraisal:

## Chapter 7 : Methodology | Definition of Methodology by Merriam-Webster

*Methodology definition is - a body of methods, rules, and postulates employed by a discipline: a particular procedure or set of procedures. How to use methodology in a sentence. methodology and Science.*

But, before deciding which is more appropriate, it is essentially important to provide a little background on both. Waterfall A classically linear and sequential approach to software design and systems development, each waterfall stage is assigned to a separate team to ensure greater project and deadline control, important for on-time project delivery. A linear approach means a stage by stage approach for product building, e. Next, in the design phase business requirements are translated into IT solutions, and a decision taken about which underlying technology i. Once processes are defined and online layouts built, code implementation takes place. The next stage of data conversion evolves into a fully tested solution for implementation and testing for evaluation by the end-user. The last and final stage involves evaluation and maintenance, with the latter ensuring everything runs smoothly. However, in case a glitch should result, changing the software is not only a practical impossibility, but means one has to go right back to the beginning and start developing new code, all over again. Now, as for minimal risk Agile, it is a low over-head method that emphasizes values and principles rather than processes. Working in cycles i. Four principles that constitute Agile methods are: The reigning supreme of individuals and interactions over processes and tools. As does, working software over comprehensive documentation. Likewise, customer collaboration over contract negotiation. And again, responding to change over plan follow-throughs. To synopsise the difference between the two, one can say the classic waterfall method stands for predictability, while Agile methodology spells adaptability. Agile methods are good at reducing overheads, such as, rationale, justification, documentation and meetings, keeping them as low as is possible. And, that is why Agile methods benefit small teams with constantly changing requirements, rather more than larger projects. Agile, based on empirical rather than defined methods Waterfall is all about light maneuverability and sufficiency for facilitating future development. By defined methods what one means is that one plans first and then enforces these plans. However, Agile methods involve planning what one wants and then adapting these plans to the results. Extreme Programming XP is an excellent example of Agile methodology i. Communication between customers and other team members; 2. Simple, clean designs; 3. Feedback given on Day 1 of software testing; 4. Early delivery and implementation of suggested changes. Agile methodology means cutting down the big picture into puzzle size bits, fitting them together when the time is right e. So, while there are reasons to support both the waterfall and agile methods, however, a closer look clarifies why many software and web design firms make the more appropriate choice of employing Agile methodology. The problem can only be fixed by going back and designing an entirely new system, a very costly and inefficient method. Whereas, Agile methods adapt to change, as at the end of each stage, the logical programme, designed to cope and adapt to new ideas from the outset, allows changes to be made easily. With Agile, changes can be made if necessary without getting the entire programme rewritten. This approach not only reduces overheads, it also helps in the upgrading of programmes. Another Agile method advantage is one has a launchable product at the end of each tested stage. This ensures bugs are caught and eliminated in the development cycle, and the product is double tested again after the first bug elimination. This is not possible for the Waterfall method, since the product is tested only at the very end, which means any bugs found results in the entire programme having to be re-written. Whereas, there is only one main release in the waterfall method and any problems or delays mean highly dissatisfied customers. As already mentioned, this is not possible when the waterfall method is employed, since any changes to be made means the project has to be started all over again. However, both methods do allow for a sort of departmentalization e. As for Agile, each coding module can be delegated to separate groups. This allows for several parts of the project to be done at the same time, though departmentalization is more effectively used in Agile methodologies. More and more firms are becoming Agile!

## Chapter 8 : Project Management Methodology: Definition, Types, Examples

*Means-ends analysis (MEA) is a problem solving technique used commonly in artificial intelligence (AI) for limiting search in AI programs. It is also a technique used at least since the s as a creativity tool, most frequently mentioned in engineering books on design methods.*

Summary information is maintained in Google sheets, with a separate sheet for each country outside India and China and for each state or province inside India and China. Each worksheet row tracks an individual coal plant unit. A wiki page is then created for each power station within the CoalSwarm website. When information about a proposed power station changes, the changes are made to both the spreadsheet and wiki page. For each project in China, the corresponding Chinese name was identified. For all countries, alternate names for projects were also recorded. Wiki pages provide a repository for in-depth information including project background, financing, environmental impacts, coal types and sources, public opposition, aerial photographs, videos, links to permits, coordinates, and maps. Under standard wiki convention, each piece of information is linked to a published reference, such as a news article, company report, or regulatory permit. In order to ensure data integrity in the open-access wiki environment of SourceWatch, CoalSwarm researchers review all edits of project wiki pages by unknown editors, an infrequent occurrence. For each proposed coal plant unit, one of the following status categories is assigned and reviewed every six months: Proposed plants that have appeared in corporate or government plans but have not yet moved actively forward by applying for permits or seeking land, coal, or financing. Plants that are seeking environmental approvals and pursuing other developmental steps such as securing land and water rights. In China, this means a feasibility study has been completed. All necessary environmental approvals have been received but the project has not yet begun construction. Site preparation and other development and construction activities are underway. In some cases a sponsor announces that it has has cancelled a project. More often a project fails to advance and then quietly disappears from company documents. The plant has been formally commissioned or has entered commercial operation. Carbon dioxide emissions For each coal plant unit, the tracker calculates carbon dioxide emissions based on the following: CO2 lifetime emissions previously were calculated by multiplying annual CO2 by For a year-old plant, that means we assume one more year of operation. For plants that are 40 years or older, we assume 5 more years of operation.

## Chapter 9 : WATERFALL vs. AGILE METHODOLOGY | Agile Introduction For Dummies

*Methodology definition, a set or system of methods, principles, and rules for regulating a given discipline, as in the arts or sciences. See more.*

Judging by the number of questions, the audience was clearly heavily engaged. I also encourage you to try ScrumWorks Pro for free. Agile is typically thought of in the context of individual projects. Companies sometimes fail to scale that paradigm to a program level, where the program is a superset of multiple projects, each running its own lifecycle and release plan. The trick is to weave those separate lines of development projects into a coherent and seamless deliverable program. The complexity comes in gathering meaningful metrics and planning releases that thread the elements together. This is exceedingly difficult to do manually. It supports the planning of complex releases that weave in multiple development threads. Will this process will be feasible for maintenance related projects Incident handling, less than 8 hours development works, etc. From the PPM perspective, an individual defect is not in and of itself a project and as such, would not be tracked. What might be tracked is a larger group of maintenance items in the form of an Epic. From an Agile perspective, a bug report or defect is just another piece of deliverable business value, like a User Story or any other Product Backlog Item. From a bug report, the product owner and team would create a Product Backlog Item PBI , along with success criteria definition of done. It is prioritized against all of the other Product Backlog Item by the product owner. It seems the PPM is geared toward a waterfall process. It appears there is only visibility into the Development phase, but with agile, you could potentially address all phases within a single sprint. PPM in this scenario is focused on evaluating the ROI of different projects and deciding where to make investments. Agile is focused on execution of the projects that are chosen. That said, the scenario we propose makes the entire organization more Agile, in that the feedback loop is instantaneous. This allows those that are making the investment decisions to adapt and make course corrections that are indicated by that feedback loop. The integration gives all team members the ability to work in a more Agile fashion, and gives Stakeholders and Project managers the ability to benefit from the faster feedback and data generated by the team working this way. Can the tasks in Scrum WorksPro be connected to tasks, timelines in Source forge? However this is possible with Collabnet Teamforge, the current commercial version of Sourceforge. ScrumWorks Pro is focused on project execution and project management. These include PBI tracking and prioritization, Task management sprint planning, release planning, team velocity, forecasting, and many other functions related to the management of an Agile project. Feedback loops between the development team and the PMO are enhanced allowing the PMO to make course corrections required. Generally, we do not see many organizations that practice a pure version of ANY methodology â€"be it Agile or otherwise. The reality is that organizations have a mix of methodologies, like Scrum, Kanban, Waterfall, hybrids, etc. Different teams in large organizations will often build software differently, so the challenge is to roll up the data from those disparate teams. Despite their differences, there are a number of common metrics you can track regardless of project type. How does budget planning and Agile development work together while still having some control over costs? The agile project management tool tracks the amount of time individuals spend on the project. In agile, what are the differences between being adaptive to late changes in requirements within a sprint and scope change? Scope change refers to any added or subtracted scope, typically measured in some form of relative effort unit like Story Points. As such, scope may be added as a team discovers more about an existing requirement. In other words, if the team finds out that a requirement is more complex than was originally envisioned, they may re-estimate the number of story points and this might add scope to a sprint. The opposite could also be true. When a committed backlog item could not be completed in a sprint, naturally it holds the top most priority in the following sprint. How does ScrumWorks helps in tracking this item from the beginning to end? An unfinished PBI may or may not be a high enough priority in a future sprint. The determination is made by the product owners. In any event, any activity against that PBI is tracked. Tasks completed that relate to that PBI are tracked, as are those that were uncompleted. What certification do CollabNet-trained scrum masters receive? We also give away free online Scrum Master training to supplement

the certified training. Forecast reports in ScrumWorks can be filtered on any number of aspects, allowing a user to deliver estimates on individual tasks, Stories, Epics or Themes. By the way, you can try out ScrumWorks Pro either in a hosted environment or as a free download. The team will probably still exceed the baseline, pre-Scrum expectation at your organization, and probably nothing catastrophic will happen. It will help you gauge the progress of your agile teams and help you answer questions like: To learn about Scrum from entertaining cartoon characters, see the Scrum Training Series. Michael has also written the Scrum Reference Card , a valuable reference document for anyone practicing Scrum or other Agile disciplines.