

Was It a Wild Card or Just Our Blindness to Gradual Change?

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Abstract

This paper examines the different definitions of the term wild card. Most often the wild card is defined as a surprising event that has significant consequences. In the literature the examples labelled as wild cards do not always meet this definition. I have divided changes into two categories according to the rapidity of the change taking place: wild cards and gradual changes. By looking at the examples of wild cards in the literature, I found that a large number of them are actually gradual changes. This paper also clarifies the difference between wild cards and weak signals, which are sometimes considered synonymous. Weak signals are a means of avoiding blindness to gradual changes and wild cards in advance.

Key words: Future, Gradual change, Wild cards, Weak signals, Early warning signals, Emerging issues

Some dramatic, surprising events of the last few years, such as the terrorist attacks of September 11, 2001, increased interest in wild cards, particularly in the literature of the future research discipline. The attacks on the World Trade Center towers were a typical wild card: a surprising and widely impacting event that was difficult to anticipate. However, it may be questioned whether the event was, after all, so surprising. Would it have been possible to anticipate it by making wild card scenarios or spotting early warning signals (i.e. weak signals) of the event (Cornish 2003)?

The purpose of this paper is to clarify the problematic definition of the term *wild card*. This paper examines several authors' definitions of the term and discloses some similarities and differences between the definitions. Although there seems to be a mutual understanding of what a wild card is and what it is not, there is some fuzziness in this concept. This can especially be seen in the authors' listings of practical examples of wild cards. In this paper I divide the changes into two types according to the rapidity of a change: wild cards and gradual changes.

Using this division, some examples of wild cards mentioned by the authors are examined. This examination seems to suggest that some of the wild cards listed by the authors are not, in fact, that surprising. On the contrary, they are more gradual changes, which could have been anticipated well in advance.

Another problematic issue in the area of wild cards is the term *weak signal*, which is sometimes used as a synonym for *wild card*. Also referred to as *early warning signals* (or *signs*) or sometimes *emerging issues*, weak signals can however be viewed in another way: as a means of anticipating future wild cards (Mendonça et al. 2004; Petersen 1999). This paper strives to clarify the differences between wild cards and weak signals. To separate a wild card from a weak signal it is helpful to point out the essential aspect of these two concepts. Weak signals are currently existing small and seemingly insignificant issues that can tell us about the changes in the future. In other words, they are today's clues and signs providing us with hints of the possible events and trends in the future. With hindsight, it is also possible to point out the weak signals in the past that were hinting about future events and trends. For the future purposes, weak signals are, above all, a tool for avoiding blindness in foreseeing gradual changes and reacting to them in time. Collecting and analyzing weak signals could be a key to anticipating changes in advance and avoid letting them cause surprise. By contrast, wild cards are surprising events with huge consequences. They have either happened in the past or are ongoing right now. In regard to a futures perspective, it would make more sense to talk about wild card scenarios, which are scenarios dominated by an imaginary, sudden event with dramatic consequences. Some ways to avoid blindness in seeing the forthcoming changes are discussed in the last section of this article.

Some definitions for wild cards

Although wild cards have become more prevalent in the literature during the last decade, they are not new. They are closely connected to other terms like discontinuities (for different definitions of discontinuity and its connection to wild cards see van Notten et al. 2005), radical or surprising changes and critical events. Ansoff (1975: 22) talked about a concept of "strategic surprise", which he describes as "sudden, urgent, unfamiliar changes in the firm's perspective which threaten either a major profit reversal or loss of a major opportunity." His concept of strategic surprise, to a great extent, resembles the concept of wild cards that has been presented later by futurists. Mendonça et al. (2004: 203) listed, from research papers, such synonyms for wild cards as disruptive events, structural breaks, discontinuities, surprises, bifurcations and unprecedented developments.

Wild Cards have been defined, for example, by Rockfellow (1994: 14), who specified a wild card as "an event having a low probability of occurrence, but an inordinately high impact if it does." When listing examples of wild cards, Rockfellow defined concrete premises for wild cards: they become evident by the beginning of the twenty-first century (i.e. in 6 years), the probability of such an event occurring is less than 1 in 10, and the events will likely have high impact on international businesses.

In his well known book *Out of the Blue: How to Anticipate Big Future Surprises*,

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Petersen (1999: 4) suggests that wild cards are "low-probability, hi-impact events that happen quickly" and "they have huge sweeping consequences." Wild cards, according to Petersen, generally surprise everyone, because they materialize so quickly that the underlying social systems cannot effectively respond to them (Petersen 1999: 4).

According to Cornish (2003: 19), a wild card is a surprising, startling event that has important consequences. He continues: "Wild cards have the power to completely upset many things and radically change many people's thinking and planning." He underlines that the more extraordinary the surprising event, the more it qualifies as a wild card surprise in terms of upsetting our expectations. On the Futurist.com website, wild cards are defined as "developments on the horizon which are possible, and which, if they occur, will change everything." Mendonça et al. (2004: 201) define a wild card as "sudden and unique incidents that can constitute turning points in the evolution of a certain trend." They continue that a wild card is assumed to be improbable, but it would have large and immediate consequences for organizational stakeholders if it were to take place. Mendonça (2004: 203) et al. see wild cards as "one of the most unpredictable and potentially damaging triggers of change of four conceivable components of change: trends, cycles, emerging issues, and wild cards."

Dewar (2003) does not talk about wild cards, but discusses about wild card scenarios, which he defines as less likely than other plausible futures. He adds that the wild card scenario would become important if the future it describes produced disproportionately dire consequences. Mannermaa (1999), on the other hand, uses the term wild card as a synonym for weak signal. He defines wild cards or weak signals as issues that are sprouting and do not have a history, trend or other recognizable past, but that can in the future become central phenomena or influential factors (Mannermaa 1999: 87). However, in his latest book, he no longer uses words weak signal and wild card as synonyms, but he nevertheless defines weak signals as if they were wild cards ["As a phenomenon, weak signals typically have low probability of taking effect and huge potential of influencing" (Mannermaa 2004: 44, translated by Hiltunen and Jääskeläinen)]. To draw conclusions from this discussion, one can notice, that wild cards are typically considered to be surprising (low-probability) and hi-impact events.

Practical examples of wild cards in the history and in the future

Most of the authors discussing wild cards give some examples of wild cards that have happened in history and that might happen in the future. Rockfellow (1994) mentioned three possible wild cards for the future: Hong Kong rules China, Europe goes regional and a no-carbon economy. Leaps from horse to car, pen to typewriter and typewriter to computer Rockfellow (1994) sees as wild-card events that already happened.

Petersen's (1999: 4) general example of a wild card is a major hurricane devastating a town in a day. He emphasizes that, for example, women's moving into the workforce in the 1950s was a major, unexpected development that had a great impact. Because it happened so gradually, however, it was not a wild card (Petersen 1999: 4). In his book Petersen lists almost eighty wild cards (note: referred as scenarios in the

back cover of the book) that might happen in the future varying from shift of the earth axis to future prediction becoming a standard business. He also defines impact indexes that are based on seven impact factors, foresight factors and the quality of the wild cards.

Cornish (2003) mentions some examples of wild cards that could have been foreseen, but, nonetheless, came as total surprises. One example is German invasion of the Soviet Union in 1941. The Soviet Union was warned by the British of Hitler's planned assault, but Stalin ignored the warning. He also mentions the collapse of WTC towers in New York on September 11, 2001, as an example of wild cards.

Futurist.com lists nanotechnology, aeroplanes that fly themselves, and doubling one's lifespan as examples of wild cards. Mannermaa (2004) lists some weak signals, which can be interpreted as wild card scenarios, more on the basis of descriptions of the future state. The titles include for example "superintelligence of computers and networks," "fusion society", and "a human being will not die".

Discussion of the properties of wild cards

Although the authors' descriptions of the wild cards seem similar, there are, however, some differences and even confusions between them. For example, Rockfellow (1994), Petersen (1999) and Cornish (2003) use the term "event" in defining wild cards; whereas, Mendonça et al. (2004) use the almost synonymous term "incident". In Futurist.com wild cards are referred to as developments; whereas, Mannermaa (1999) defines them as sprouting issues; and Derwar links them with the word *scenario*. May (1996: 162) defines scenarios as outlines or sketches of major developments. Thus, one can detect disagreement concerning the duration of wild cards. An event or an incident refers to shorter duration, while a development is more time consuming, a result of developing.¹ It could even be argued that a development is a series of events.

Some of the definitions refer to the short duration of the wild card even more clearly. According to Petersen (1999: 4), wild cards are events that happen quickly, like a hurricane destroying a city, which entails that the duration of the event is short. On the other hand, with such examples as the shifts in the Earth's axis or rapid climate change, he also refers to the longer duration of the wild cards. Petersen (1999) also describes wild cards as surprises, because they materialize so quickly. Mendonça et al. (2004) also write about the abruptness of the wild cards, which seems to refer to the short time to prepare ourselves for the wild card. Mannermaa (1999) also agrees with this opinion, when emphasizing that wild cards do not have a history or recognizable past. Overall, there seems to be a consensus about the rapidity of a wild card's taking place.

The critical question about the wild cards is to whom they are wild cards. Barber (2006) introduced, for this purpose, the Reference-Impact Grid, "RIG", to estimate the impacts of wild cards. In the grid, he has divided the scope of impact and reference to personal, local, national, transnational, international and global level to estimate the impact level of a wild card.

Another critical question is how wild cards differ from scenarios. Why are wild cards not simply referred to as "wild scenarios" or "surprise scenarios"? Petersen

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(1999), on the back cover of his book, and Dewar, in particular, are using the word scenario when referring to wild cards. I hope the the following discussion about the nature of wild cards and weak signals will clarify this aspect.

In order to distinguish between wild cards and weak signals, it is necessary to point out the differences between these two concepts. Weak signals, which are similar to emerging issues (see for example Dator 1996, 2005 and Molitor e.g. 2003), are currently existing small and seemingly insignificant issues and events that can tell us about the changes in the future. In other words, they are today's clues and signs that provide us with hints of possible events and trends in the future. With hindsight, weak signals providing hints about future events can also be indicated from the past. By contrast, wild cards are surprising events with huge consequences. They have either happened in the past or are happening at the moment. In regard to the future perspective, it would seem to make more sense to talk about "wild card scenarios" rather than plain "wild cards", as they are scenarios that are dominated by imaginary, sudden events that have dramatic consequences. The following figure illustrates the idea.

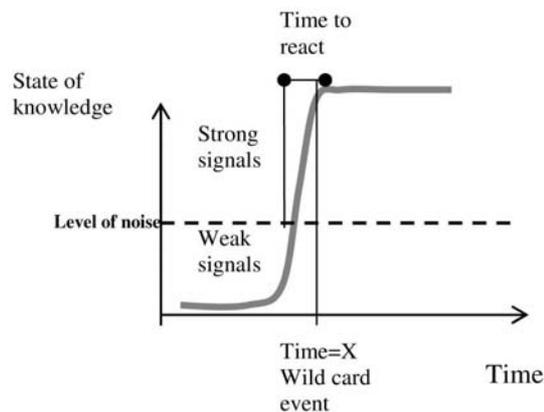


Figure 1: Wild Cards and Weak Signals in a Time Frame. Weak signals exist here today. With hindsight, it is also possible to point out weak signals in the past that were hinting about future events and trends. Wild cards are sudden surprising events that have happened or might happen in the present. Wild card scenarios are our images of a future state in which an imaginary surprising event has a dominating effect.

Is the term wild card valid within the futures studies?

The most challenging part in discussion of wild cards is the probability of its occurrence.

Some authors, like Rockfellow (1994) and Petersen (1999), label a wild card as a low probability event. This raises the question of whether there is a "normal future," which is more probable than some other less probable future indicated by wild cards? Then, a further question could be: Who tells us what a "normal" future is? In my opinion, our mental models and filters (see Ansoff 1984) restrict us to see all possible vari-

eties in the projected futures. It is, indeed, tempting to call events unfit for one's mental model either "impossible" or having a low probability of happening in the future. It becomes apparent that the characteristic "low probability" of wild cards comes from the restrictions of our mental models openness in regard to occurrence of these surprising events

The low probability characteristic of a wild card may have come into existence because scenarios have typically been divided into *possible scenarios* (everything that can be imaged), *realizable scenarios* (all that is possible, taking account of constraints) and *desirable scenarios* (which fall into the possible category, but which are not all necessarily realizable) (Godet 1993: 56). To investigate wild cards in this framework, low probability is a legitimate characteristic of a wild card. However, there might be another view to the future: *possible and realizable futures* include all the futures, even those futures that are not imaginable and not constrained (i.e. "normal") to us. Using this rationalisation, the low probability of an event is not a valid characteristic of a wild card. As Dator (source: internet) wisely puts it: " 'the most likely future' is often one of the least likely futures." In my opinion, wild cards defined as rapid (and in that sense surprising) events that have vast consequences can be used in futures studies. The characteristic low probability does not fit to the definition of wild cards in my opinion.

Classifications of wild cards

On account of the dilemma of the duration of wild cards, I divide wild card events into irreversible and reversible changes (Table 1). Of course, when talking about reversibility of the system, the question is mostly related to time. For some changes to take the same values as in the original state prior to the wild card event, it might only take some months or years. These I categorize as reversible changes. If, however, it takes more than tens of years to restore the original state of affairs or it does not happen at all, I label the event as irreversible. Examples of these categories are listed in Table 1.

Table 1: Two types of wild cards

Wild cards	
Type of the wild card	Example
Irreversible	Shift of Earth's axis
Reversible	Stock market crash

The key issue, when considering wild cards and other changes, is the rapidity of the changes and, according to that, the time to react to them. In order to take these dynamics into account, changes can be divided into two categories: wild card type of changes and gradual changes. Both of these types are similar to S-curve type of

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changes that for example Molitor (2003) and Dator (1996, 2005) have discussed earlier in connection with emerging issues. The difference of these two types of changes is the speed of the change (i.e. the slope of the S-curve).

In the case of wild cards there is only little time to react to the change before it takes place. In contrast to gradual changes, it is possible to anticipate them well in advance. It is understood that this division much resembles the division of discontinuities into categories of abrupt and gradual discontinuities described by van Notten et al. (2005). Although these authors do not use the term wild card in this sense, I assume that their "abrupt discontinuity" is very similar to wild cards while "gradual discontinuity" (or transition as they also refer to it) has some elements of the term gradual change that I use.

Following is an example of gradual change vs. wild cards change on a personal level: If a family member is diagnosed to have a fatal disease, like an incurable cancer, the family gets some time to prepare to the unfortunate fact of losing a dear member of the family. This can be called a gradual type of change. On the other hand, an example of a wild card type of change could be a sudden, unexpected death, such as a death in a car crash or suicide, which gives the family no time to be prepared for the loss. Even though the result in both cases is the same (an empty spot in the family) there is, in the former case, more time to prepare oneself to the loss than in the latter case. That is why in the latter case, the change itself appears to be total surprise, a wild card.

Wild card and gradual types of changes are presented in Figures 2 and 3. For these figures I have combined ideas from Ansoff's "Inter-action between forecasting horizon and response time" (1980: 367), Coffman's "Growth of weak signal in noisy channel" (1997b) and Steinmüller's "Life Cycle of a Wild Card" (2004).

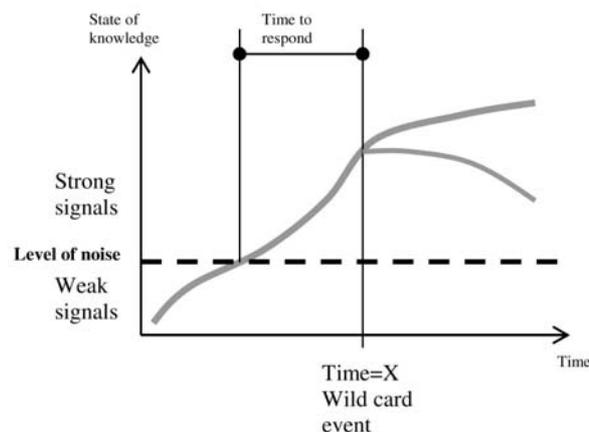


Figure 2: Wild Card Type of Change: a sudden change that gives little time to respond or be prepared for it. The level of noise in the figure refers to the level, above which the event is visible to the sizeable group of a concerned public. Above the level, one can notice strong signals. Below the level of noise, only weak signals of the change exist. The time to react is the time from when "an average" person can perceive a wild card happening (i.e. the level of noise exceeded) to the time when it actually takes place.

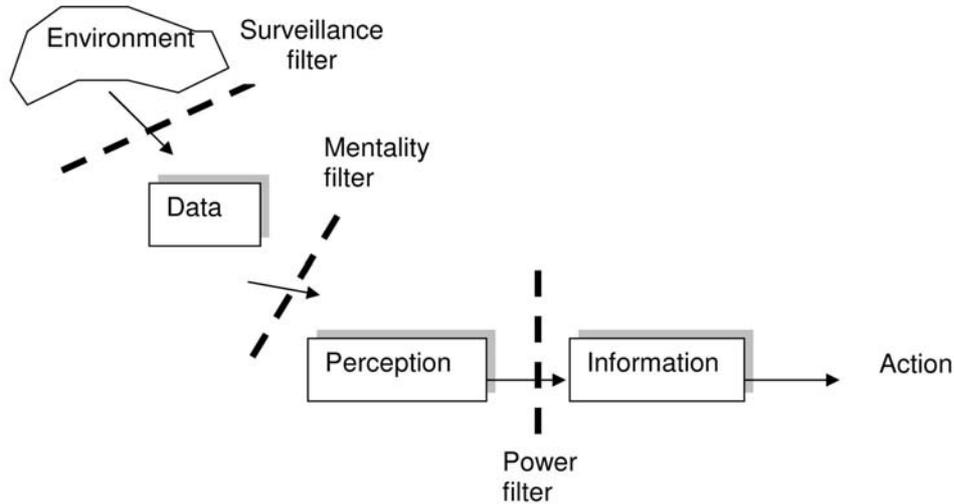


Figure 3: A Gradual Change: The change is taking place gradually and it gives more time to respond. The change has different possibilities to evolve after the time X (increasing, decreasing or keeping the same level).

In the light of the previous categorisation, this review classifies some of the wild cards mentioned by the authors.

As indicated in Table 2, most of the wild cards mentioned by the authors were categorised as gradual changes. Of course, it ought to be taken into account that the table of classification of the wild cards is not supposed to act as a quantitative study. Also, because the classification is complex and subjective, the table is not absolute. Rather, the purpose of the table is to show the tendency of pattern, which in this case is that instead of being actual wild cards most of the listed cases in fact more resemble gradual changes.

To question the general claim that the listed wild cards in the table are surprising events, another type of interpretation is presented. Although some of the listed wild cards possibly will happen or have happened quickly (i.e. they are classified as wild cards), most of the wild cards listed by the authors are such events that labelling them as wild cards would simply ignore their development, which could have been perceived. They are, indeed, more like gradual changes. They could have been anticipated (in case of historical wild cards) or signs of them could be seen at present (in case of possible wild card scenarios). Thus, it would be preferable to call these changes gradual changes that have surprised us because of our blindness to them. Of course, there is a great temptation to label a gradual change as a wild card that takes us by surprise if we have had problems in anticipating it. For example, in innovative technological developments, such as the change from horse to car in the past, or the potential doubling of lifespan, and thermal depolymerization in the future. Getting the new technology from the laboratory scale to everyday use takes plenty of time. Thus, it

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Table 2: Examples of Wild Cards in the Literature

Wild card listed by authors	Possible wild card/ history wild card	Author	Type of the wild card WC=wild card GC=gradual change
Hong Kong Rules China	P	Rockfellow	GC
Europe goes Regional	P	Rockfellow	GC
Leap from horse to car	H	Rockfellow	GC
Leap from typewriter to computer	H	Rockfellow	GC
A hurricane devastating a town	P/H	Petersen	WC
Shift of Earth's axis	P	Petersen	WC/GC
Asteroid or comet hits the earth	P	Petersen	WC
Gulf or jet stream shifts location permanently	P	Petersen	GC/WC
Crashes of WTC tower, 9/11	H	Cornish, Mendonça et al.	WC
The fall of Berlin Wall (the reunion of Germany)	H	Mendonça et al.	WC/GC
Major stock market financial crash	P/H	Mendonça et al.	WC
Thermal Depolymerization (everything into oil)	P	Futurist.com	GC
Doubling the life span	P	Futurist.com	GC
The rights of robots	P	Mannermaa (1999)	GC/WC
A global multimedia monopoly	P	Mannermaa (1999)	GC

gives us time to react to it if we just keep our eyes open. It would indeed be implausible to call these kinds of changes wild cards.

It seems that what the so-called wild cards listed in table 2 have in common is their major impact on the system, whereas the surprise factor being a common feature is highly questionable.

Can wild cards be anticipated?

Some writers (Cornish 2003; Petersen 1999; Mendonça et al. 2004) claim that it is sometimes possible to anticipate wild cards in advance. I agree with these writers. For example, Cornish (2003) contradicts the surprise factor of the September 11 attack on the WTC towers. According to him, warning signs were all there before the attacks. As examples of these, he lists two articles in the Futurist: an article by terrorism expert Brian Jenkins who discussed about the possibility of aerial suicide attacks, and an article by forecaster Marvin J. Cetron, who identified World Trade Center as a choice target from the terrorists' perspective. He also reminds us about the terrorist attack to the World Trade Center in 1993 that failed at that time. Cornish (2003) concludes that

maybe the September 11 event could have been foreseen in scenario work. Mendonça et al. (2004) and Petersen (1999) also very clearly announce that signals of wild cards, most of the time, are available. Petersen (1999) calls these signals *early warnings or early indicators*, whereas Mendonça et al.(2004) calls them *weak signals*.

Mendonça et al. (2004) emphasize that wild cards can be anticipated by watching weak signals of them. They use Coffman's (1997a) definition of weak signals, according to which a weak signal is:

1. an idea or trend that will affect how we do business, what business we do, and the environment in which we will work
2. new and surprising from the signal receiver's vantage point (although others may already perceive it)
3. sometimes difficult to track down amid other noise and signals
4. a threat or opportunity to your organization
5. often scoffed at by people who "know"
6. usually has a substantial lag time before it will mature and become mainstream
7. therefore represents an opportunity to learn, grow and evolve

Mendonça et al.(2004). emphasizes that by scanning weak signals in the environment, some wild cards can be anticipated. For those wild cards that cannot be anticipated, organizational improvisation is needed for dealing with ongoing crises.

Petersen (1999) underlines that wild cards can sometimes be anticipated and assessed ahead of time. The key for that is careful, focused and objective observation with unusual new methods of accessing information. Thus, Petersen (1999) encourages people to think about wild cards now, to use effective information gathering and analysis processes for identifying early warning signs of wild cards, and to use extraordinary approaches to deal with them. He advocates having an input in this process from experts in systems behaviour, the Internet, complexity theory, and other "new sciences", as well as from many traditional disciplines. Listing almost 80 wild cards, he also lists early warnings that would seem to indicate the possibility of the wild cards to happen. For example, Petersen (1999: 46-47) lists several early indicators for the wild card "Gulf or jet stream shifts location permanently", such as the unusual periodicity of El Niño from 1990 to 1997, large variations in jet stream location over North America, and higher frequency and greater intensity of storms.

On the other hand, there are opposite opinions. Barber (2006) claims that with wild cards there are no advance warnings of the event and, therefore, impacts are sudden and widespread. However, he suggests that unlike wild card events, discontinuities can be anticipated and can be seen emerging.

When discussing the dilemma of anticipating wild cards and gradual changes, I refer to Figures 2 and 3. As Figure 2 shows, there is a short interval between the time when the first signs of the change become visible to the sizeable group of a concerned public (i.e. level of noise is exceeded) and the time of the wild card impact. The only thing we can do about anticipating wild cards is to try to look below the noise level (Coffman 1997b) in order to spot the weak signals. This can be done, for example, by using effective environmental scanning systems and focusing on extraordinary sources of information, like scanning the movements of minorities and activists of the society.

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Avoiding blindness in seeing forthcoming changes

As discussed in the previous section, weak signals can pre-indicate changes (both wild cards and gradual changes) in the future. Because of the rapidity of the wild cards, weak signals are more difficult to use in anticipating wild cards than in the case of gradual changes (see Figures 2 and 3.). On the other hand, with the gradual changes, people sometimes tend to ignore the such weak signals. However, gradual changes should not be labelled as wild cards because of blindness to them and, consequently, of their big surprise factor.

If there are weak signals preceding the surprising events, why are not wild cards or even gradual changes recognized in advance? What is the thing that causes blindness for us to see the signs of future events? Ansoff (1984: 335) has presented a theory of information filtering (Figure 4) for this issue.

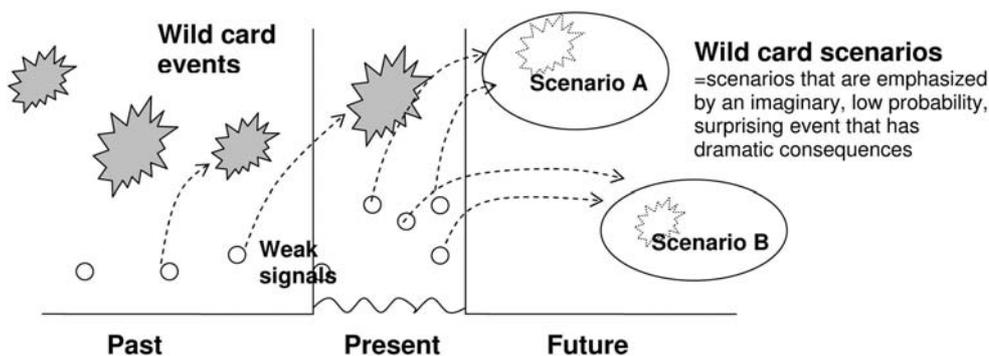


Figure 4: Filters for Information by Ansoff (1984: 335).

According to Ansoff (1984: 326-335), signals have to pass three filters: surveillance filter, mentality filter and power filter to be able to affect the decisions. In every filter some signals are blocked out and the rest pass the filter. For getting relevant information of the environment (including weak signals of the change), Ansoff (1984: 334) suggests that it is important to use techniques (environmental surveillance, forecasting and analysis) that can capture the essential elements of the reality in case of surveillance filter. For broadening the mentality filter, the development of key manager's mentality, which will be responsive to future turbulence, is needed. A wider power filter calls for the appropriate mentality of powerful managers toward novel things.

Webb (1987: 12-14) also lists some reasons why signals are sometimes weak and difficult to recognize:

- 1) Signal is strong but the sensory apparatus are not capable to detect the signal.
- 2) The sensory apparatus is designed to detect particular signals, and thus it will not detect other signals, no matter how strong they are.
- 3) Filters interposed between the signal and detector attenuate the signal from its original strength.

- 4) The discontinuity that causes the signal may exist geographically too far from the sensor.
- 5) When the discontinuity commences to occur it will emit signals which will be weak at first.

In my opinion, trying to widen the filters listed by Ansoff (1984) for receiving signals is one way to get a better view of wild cards in the future. In organizational context, this can be done in practice by using a wider and even atypical range of information sources for environmental scanning and forecasting activities (i.e. widening the surveillance filter). Here, for example, Day and Shoemaker (2005) are emphasizing the importance of scanning the periphery to see weak signals of a change. Also, hiring employees from different disciplines and of different backgrounds (widening the mentality filter) and educating top manager openness to alternatives of the futures and to be ready to act differently if needed (widening power filter) are ways to be more open to weak signals in the environment. Ilmola & Kuusi (2006) have discussed widening the filters for weak signals in organization more precisely in their paper. Solutions posed by Ansoff's filters can be used to overcome the problems listed by Webb (1987).

Today, the possibility of using Internet sources for information gathering, greatly augments any shortage of weak signals. On the Internet, the voices of a wide range of people are accessible. Following the stories of the masses and especially changes in them is one way of anticipating forthcoming changes. This kind of *myth analysis* was successfully used by Shell in anticipating the forthcoming revolution in Iran (Åberg 1989: 251). Avoiding blindness for changes is achieved by searching signals of change with the curiosity of a child. These weak signals can be found especially from the periphery of the society. For avoiding blindness, the author shares two hints with the readers. Firstly, organizations, in modified terms of Star Trek, should: "boldly search signals where no man has searched before". Secondly, never say never in respect of future.

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Notes

1. A definition of the word *development* in Merriam-Webster on-line dictionary <http://www.m-w.com/cgi-bin/dictionary>, taken March 2, 2006.

Development (Function: noun)

a: the act, process, or result of developing

b: the state of being developed

c: a developed tract of land; especially : one with houses built on it

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