

# THE MEDICI EFFECT

## Breakthrough Insights at the Intersection of Ideas, Concepts & Cultures

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*A structured and systematic approach to innovation can pay off. This has been a recurring theme in management literature. This fascinating book tells us about working at the intersection of different fields to generate and implement creative ideas. Opportunities to innovate may be limited within a field. But they multiply when different fields are combined. That is the key message in this book.*

### Understanding Innovation

Innovation must not be confused with invention. Innovation is supremely practical. It is focused on producing results. Simply coming up with an amazing idea does not qualify one as an innovative person. An idea has to be “sold” to others in the world. It has to be implemented. In other words, individuals by themselves cannot be creative. Creativity occurs when people act in concert with the surrounding environment, and within society. It is ultimately society which decides whether an idea is both new and valuable. A concept cannot be considered innovative until it passes social evaluation.

### Working at the Intersection

The key difference between a field and an intersection of fields lies in how concepts within them are combined. When we operate within a field, we can combine concepts within that particular field, generating ideas that evolve along a particular direction. The author calls them *directional* ideas. When we work at the intersection, we combine concepts between multiple fields, generating ideas that leap in new directions. The author calls them *intersectional* ideas.

Directional innovation improves a product in fairly predictable steps, along a well-defined dimension. The goal is to evolve an established idea by using refinements and adjustments. The rewards are reasonably predictable and attained without a long gestation period.

Intersectional innovations, on the other hand, pave the way for a new field. They often make it possible for the people who originated them to become the leaders in the fields they created. Intersectional innovations do not require as much depth of expertise as directional innovation and can be executed by seemingly ordinary people.

For most of us, the best chance to innovate lies at the intersection. Not only is the probability of finding remarkable idea combinations greater there, we will also find many more of them.

## **The Rise of Intersections**

There are three distinct forces behind the rise of intersections.

The movement of people is on the rise everywhere. This is facilitating cultural intersections in fields such as cinema, literature, music, and art. Businesses, too, are increasingly able to innovate in different regions of the world. They can arbitrage ideas between different cultures by understanding how those cultures connect.

The second reason is that in field after field, our basic understanding of the world is reaching a point of saturation. We have a pretty good understanding of the individual components of the world. In the near future, the chances of making a radical discovery are slim. So the emphasis will be less on understanding each component and more on how those components interact.

Last but not the least, computing power has been doubling every eighteen months and continues to do so. This exponential leap in computation will generate more intersections for two reasons. First, it will not merely let us do the same things faster (which enables directional innovation). It will also allow us to do different things, generating possible intersections between traditionally separate fields. The leap in computation has also led to advances in communication, making our world smaller. Individuals, groups, and organizations that were once separate can now easily come together to find intersections between their backgrounds and expertise.

## **Breaking Down the Barriers between Fields**

A key ingredient of intersectional innovation is breaking down the barriers between fields. Usually, when we hear a word or see an image, the mind unlocks a whole string of associated ideas, each one connecting to another. These chains of associations tend to be clustered around domains related to our own experiences and allow us to move quickly from analysis to action. Chains of associations improve efficiency but they limit our thinking. Assumptions are not questioned as readily. Conclusions are reached faster and barriers are created to alternative ways of thinking about a particular situation.

Creative minds tend to make unusual associations because they engage in divergent thinking. Persons with high associative barriers will recall how the problem has been handled in the past, or how others in similar situations solved it. Persons with low associative barriers on the other hand, may try to connect ideas or concepts that have very little basis in past experience, or that cannot easily be traced logically.

People can break down their associative barriers by doing one or more of the following things:

- Exposing themselves to a range of cultures
- Learning differently

- Reversing their assumptions
- Taking on multiple perspectives

Cultures are defined by rules and traditions. They impose certain ways of thinking and acting. This is why exposure to different cultures is so effective in breaking down associative barriers. Through diverse cultural backgrounds and experiences, one can more easily escape imposed viewpoints. Cultural diversity does not only imply geographically separated cultures. It can also include differences based on ethnic, class, professional, language or organizational backgrounds.

The way we learn is also important. By learning fields and disciplines on our own as opposed to being tutored, we have a greater chance of breaking down associative barriers. Formal education first increases the probability of attaining creative success, but after an optimum point, it actually lowers the odds. This point occurs a bit earlier for artistic careers and a bit later for scientific paths. All of this suggests that it makes sense to spend significant amounts of time reading and drawing, learning and experimenting, without guidance from instructors, peers, and experts.

Associative barriers can be broken down by directing the mind to unusual paths while thinking about a situation, issue, or problem. One of the most effective ways of doing so is to reverse an assumption so that, the mind is encouraged to view a situation from a completely different perspective.

We also need to develop multiple perspectives while tackling a problem. If a solution seems particularly attractive, we can keep elaborating upon it, thinking openly about how to make it happen. Instead of quickly zeroing down on the solution we are looking for, we must put aside, at least temporarily the most obvious assumptions and allow our mind to escape its usual chains of association.

Leonardo da Vinci, perhaps the greatest intersectionalist of all times, believed that in order to fully understand something, one needed to view it from at least three different perspectives.

### **Combining Concepts**

Intersectional ideas are groundbreaking, because the concepts involved are so different and the combinations so unusual that no one would have thought them possible.

There are two main types of random combinations involved in generating creative ideas.

The first form, “flash-in-the-sky serendipity,” usually happens while we are trying to solve a problem. We have a specific goal in mind but we are not sure what the solution looks like. The goal might be an innovative marketing campaign, a new grant, or a special-effects technology. In these situations, the solution tends to emerge after, first a long period of intensive thought, and then a period where one does not think about it much. During that period the problem is still held persistently in the mind while it is temporarily associated with other concepts and impressions

acquired accidentally. Sooner or later, one of them “clicks” with the problem at hand and a new idea or solution emerges.

The second form of random combinations, are “prepared mind discoveries.” They happen when people with a “prepared mind” encounter a phenomenon they had not set out to find. This needs a “prepared mind” because this particular observation could easily be missed unless one is prepared to understand its significance.

To generate intersectional ideas, varied experiences are critical. Diversity holds the key here. If increasing random combinations is the essence of generating intersectional ideas, it would make sense to intentionally introduce randomness into our thinking pattern. The act of moving between, or switching fields through different jobs, projects, or hobbies can be an effective way to generate unplanned, unique insights.

### **Quantity leads to quality**

The most successful innovators produce and realize an incredible number of ideas. The strongest correlation for quality of ideas, is, in fact, quantity. Scientific papers, strategy concepts, ideas are not evenly distributed. In any given field of creative activity, it is typical to find that around 10 percent of the creators are responsible for 50 percent of all the contributions.

In his influential book *Origins of Genius*, psychologist Dean Simonton explains that innovators are successful because they are highly productive. More ideas lead to more high quality ideas. The number of papers scientists publish, for instance, is correlated with the number of citations they receive for their top three works. In other words, the best way to see who has written groundbreaking papers is to look at who has published the most. The best predictor for who will receive a Nobel Prize, is the number of publications the person has against her name. As Simonton’s research suggests, if being productive is the best strategy to innovate, then the intersection is the best place to occupy. By breaking down associative barriers and stepping into the intersection between fields, the number of available idea combinations increases beyond anything we can achieve in a single area.

### **Exploiting the Intersection**

How do we best exploit the myriad opportunities at the intersection? The author has three messages here:

- Strike a balance between depth and breadth
- Actively generate many ideas
- Allow time for evaluation.

The interesting thing about intersections is that even if we knew only a fraction of the concepts in the different domains making up the intersection we would still be ahead in the game. So it would appear to be far better to know a tiny bit about hundreds of fields than a lot about just one. But

we should not take this too far. We must strike a balance between depth and breadth of knowledge in order to maximize our creative potential. Too much expertise can fortify the associative barriers between fields. At the same time, expertise is clearly needed to think with clarity and focus and develop new ideas.

People are less creative under serious time pressure. In fact, if we want to capture intersectional ideas, the best bet may be to take our time. There are at least two reasons for this.

First, it is critical to postpone the judgment of new ideas. Our minds will quickly judge the value of an intersectional insight by comparing it to what is known to work within an established field. But these fields are not good guides for evaluating ideas that result from random and unusual concept combinations. Instead, intersectional ideas must be evaluated from a different perspective, one that does not come instinctively. We are therefore better off waiting to judge our insights when we have some time to think them through.

Second, time must be allowed for incubation which plays a critical role in innovation. After working hard, in a focused manner on a problem or idea and developing it as far as possible, we should move on to something else and forget about the problem for a while. When we return to the project a few days or weeks later, other ideas, usually more original, will present themselves.

### **Rewards and Recognition**

When people feel that they are being rewarded for an activity, that feeling of external control may actually impair creativity. People may feel manipulated. On the other hand, if intrinsic motivation is high, if people are passionate about what they are doing, creativity will flow. External expectations and rewards can kill intrinsic motivation and thus kill creativity. When intrinsic motivation drops off, so does the willingness to explore new avenues and different ideas, something that is crucial at the Intersection.

It is important to add that not all rewards will have a negative effect on intrinsic motivation. Innovators at the intersection find that their intrinsic motivation declines when correlated with explicit reward, but rewards that are provided as a testament to their competence or as part of a learning experience can prove very effective. Clearly innovators should receive the fruits of their labour. If such rewards are not given, this will stifle motivation. At the same time, innovators should not feel that they are being manipulated by monetary incentives.

### **Breaking Out of the existing Network**

There is a difficult paradox for anyone pursuing an intersectional idea. To succeed at the intersection of fields, we have to break away from the very networks that make us successful.

Both people and firms in a value network will have set up processes and procedures that essentially kill off attempts to break out of it. New ideas that do not correspond to the values of

the network have a way of getting eliminated. This is why we must break out of these networks if we want to increase the probability of success.

The only way to succeed in breaking away from our old value network is to stop relying on it. Sometimes this means that we have to quit our job and join an institution that can quickly help us establish a new network.

When we step into the intersection of domains, disciplines, or cultures, we must be prepared to fight a battle. People may not believe in what we are doing. Sometimes an intersectional idea can threaten an established field. Those within that field will naturally do whatever they can to prevent the new idea from becoming an accepted innovation. In order to break out of our network and start building another one, we will need to stand up to the challenges posed by those within established fields.

### **Taking Risks and Overcoming Fear**

Most of us are conditioned to approach any new challenge with questions such as: What is our goal and how will we get there? But it is very difficult to realize ideas at the intersection by flawlessly executing well-defined action plans. The intersection is a place where our understanding of what to do and how to do it is hazy. Successful execution of intersectional ideas, does not come from planning for success, but from planning for failure.

Humans have a fundamental tendency to live their lives at a certain “acceptable” level of risk. This level is different for each individual, and it changes according to phases of our lives, but we all have a level at which we are comfortable. Gerald Wilde, a Canadian psychologist and leading risk expert, calls this tendency *risk homeostasis*. Risk homeostasis says that people will compensate for taking higher risks in one area of life by taking lower risks in another.

More money, more time, more experience, or better contacts should logically help in realizing an intersectional idea. They do help, but not necessarily by decreasing the risk of failure. These resources are all factors that can help us in what we can accomplish, but they do not increase the chances of success, since with more resources we will try to accomplish more.

In other words, more money leads to greater spending. Having more time means taking more time. Having greater experience or better contacts means relying more on them to get things done. It is not that we waste time, money, or contacts, but that we try to do more with the amount that we have. In trying to do more, we slowly begin to increase the risk of failure, until we hit a level we are subconsciously comfortable with.

The intersection represents the best chance to innovate because of the explosion of unique concept combinations. It offers a great numerical advantage when looking for fresh ideas. In other words, the intersection is a low-risk proposition for breaking new ground.

We have a natural bias toward directional innovation. A company that is a leader in a particular market or product will stay in that market as long as it can. After all, a company would feel foolish if it squandered a sure gain. As a result a company becomes reluctant to try out intersectional ideas because taking risks would threaten its current level of status and security.

This behavior stands in stark contrast to our actions when things are not going well. This is usually when we take the really big chances, when we are willing to try something new. For instance, a company might test a radical strategy and go for broke if nothing else is working. Individuals who fear they will be laid off may see it as an opportunity to test out a new idea. The same holds true for scientists who work in a field where funds are drying up. They are left with no choice but to enter a new field, sometimes making remarkable discoveries at the intersection.

Fear can be a major deterrent while pursuing innovative opportunities. We can deal effectively with fear in two ways: the first is acknowledging fear and the second is admitting the possibility of failure. Acknowledging fear means we have to come to terms with what is at stake and admit that we might lose it. We must also be comfortable enough to know that even if we incur heavy losses, we can still move on. By accepting our fears, by acknowledging that we can fail, and by becoming comfortable with what happens if we do fail, we can much more effectively move toward realizing our ideas at the Intersection.