

What are Reasonable, Realistic Expectations for Biometrics?

Putting Perceptions in Perspective

This paper is intended to help those considering an investment in biometrics whether for personal, business or other use. We believe that the subject is not for the faint of heart, but at the same time, those that fail to start with a modest beginning are likely to regret it later on. Getting help and lessons learned from past experiences can help to avoid any pitfalls. The important thing is to understand what is likely to be encountered and take appropriate actions based upon a realistic comfort level and expectations. This paper should help to put things in perspective for you.

Our business includes getting new products and technologies into the marketplace and putting them to productive use. This includes biometrics. Although this paper focuses upon biometrics, the same principles apply to other new products and technologies. You will find questions that need to be answered, suggestions to get you started and ways to follow through to realize maximum value from your investments. As you move forward, you will need to be able to assess results compared to expectations. Consider these thoughts and ideas.

Start by considering what you expect to get out of your technology purchases.

Do you feel the same about emerging technologies as you do about established ones? Do you expect that any item being considered will have recognized benefits and be able to serve a specific purpose that you have in mind? Or do you occasionally investigate new things to see if they would be beneficial? Or do you wait until others are buying and are afraid to be left behind? Is it always clear what a product will do and how it can be applied to your existing infrastructure before you consider it? What are you looking for? Dependability? Reliability? Cost and time savings? Ease-of-use?? What about customer service and support? Will it be difficult to choose from among similar, but different, products that are available in the marketplace? What about getting your purchase set up properly and learning how to use it? What if more effort is involved than was anticipated? Do you have capable technical resources and users willing to accept challenges and change? What are the potential consequences of moving forward or not moving forward? No doubt, you will add other questions to this list.

Expectations involve different factors and perceptions.

With new, emerging products and technologies, challenges are usually greater than those encountered with familiar well established ones. When you face the unknown, you could easily wonder if you could be buying a white elephant that will simply lead to trouble and headaches. Yet, at the same time, you could end up discovering unexpected value that makes you surprised that you could ever have gotten along without it.

Leading edge technologies typically come from startups.

We can become spoiled with impeccable customer service and support. The downside with emerging technologies is that there is likely no well developed service infrastructure to support them. Small companies tend to send callers to voice mail, are slow to answer inquiries, lack experience needed to build successful solutions around their products and are overly vague when it comes to what their products can and cannot do. Don't be surprised if you learn something that others, including the vendor, have not already found out. Be realistic, but do not become discouraged since the effort can be well worth the frustrations.

There is no magic formula.

With things that are new such as biometrics, applications are often limited and poorly documented. Testing leaves much to be desired. The devil is in the details. Although people may share common interests and requirements, they typically have their own special needs, wants, likes and dislikes. Biometrics provides choices, but represents differences that can be subtle. When getting down to the details, not every design, product or type of biometric works well or works the same for everyone. Expect to use trial and error to get things right and balance tradeoffs.

Working with biometrics is like hitting a moving target.

Looking at the practicalities, it is difficult to believe that a single biometric will ever be 100 per cent perfect in assuring absolute, irrefutable identification of each and every individual. Products and technologies continually improve. However, even if the seemingly unattainable 100 per cent level is reached in theory, practically speaking, it would be a thankless challenge to create a matching database covering every person on Earth and keep its records up-to-date in real-time. It certainly would not be realistic to expect such a thing. However, when biometrics are applied and used creatively in concert with other factors, even as a nascent technology, biometrics perform far better than other commonly used methods for forensically proving someone's identity.

Become familiar with terminology, parameters and tradeoffs.

In particular, understand the impact of false positives and false negatives and the potential inability of biometric devices to successfully work with certain individual characteristics. This can result in a failure to enroll and/or an inability to obtain successful, consistent matches when put into regular use. Remember, too, that when someone is compared to records in a biometric database, the bigger the database, the longer it will take to see if there is a valid match. When shortcomings such as these are recognized, they can be minimized in creativity ways.

In the absence of perfection what should be expected from biometrics?

In the beginning, if it takes special measures to realize satisfactory operational performance and reliability from biometrics, it will be necessary to accept the added costs and inconvenience. However, adopt a continuous improvement model. Extra efforts will not be required forever, and biometrics will become easier and simpler as improvements are gradually made. Once the learning process has been completed, the new process will likely prove more cost-effective than the one that it replaced even when extra startup efforts are factored in.

There are parallels with supermarket scanners.

Supermarket scanners left a lot to be desired when they were first introduced. Positioning of barcodes was critical; pricing tables were poorly maintained; operator errors were frequent; and customers were frustrated and suspected a conspiracy when they were overcharged. Performance and results have progressed dramatically over the years. Some stores even encourage customers to scan their own purchases with simple visual prompts. From the beginning, though, it was apparent that once the bugs were worked out, resulting value would be considerable from greater accuracy and throughput. This has certainly been the case.

Biometrics are like barcodes on steroids with hundreds of thousands or millions of additional parameters and features to catalog and match. Realistically, someone should not expect satisfactory results if they are using biometrics with old computers that lack the speed and capacity to analyze and process all of the details and to do it quickly.

Automated identification using biometrics is in its infancy, but already has improved considerably since its first inception. Although far from being perfect, biometrics provides significant value and in our opinion is definitely worth considering and investigating. Biometrics is especially suited to applications for single users where the biometric that is applied can be enhanced with a PIN or smartcard to increase throughput by minimizing the impact of any limitations.

What will biometrics do for you?

A successful implementation depends on what you are willing to do to make your endeavor successful. This includes careful selection, setup and follow through. User training and support is especially important. It also depends on well thought out expectation setting and a well thought out implementation plan and strategy. Begin by considering what the technology is intended and advertised to provide. How will that best fit your goals and objectives and the resources available to accomplish a successful project.

Set expectations for your biometric project.

Look at both the pros and cons associated with moving forward. Whatever you do, do not attempt to go too far, too fast. There will be a learning curve. Attempting short cuts could prove disastrous. Introduce change carefully, avoiding steps that cannot be reversed if there is a problem.. Compare old and new methods side by side and assess progress.

Here are some things to consider when setting expectations.

EXPECTATION	START NOW?	BETTER TO WAIT?
Will the change be an improvement over the older technologies that you are currently using?	Yes, but do not take everything at face value. See for yourself. Move forward carefully. Assess interim results.	Biometrics will become even better in the future. However, those who get started now, will learn and realize partial benefits that will grow over time.
Can biometrics be set up and forgotten?	In part. However, do not expect to avoid set up challenges. Once these are passed, you should be home free as long as reasonable, careful monitoring and maintenance are performed.	Yes, if you expect biometrics to perform like a mature product.
Are biometrics trouble-free, reliable and dependable?	If a good job is done selecting, installing and maintaining your biometrics, expect greater peace of mind, less frustration and even cost and time savings.	If you prefer to risk exposure to identity theft and are not frustrated with the status quo, e.g., the use of passwords, you might as well wait for better products.
How about affordability?	Yes, it is affordable now, but value will continue to improve.	Be sure to have adequate technical support on hand when you start.

Decide upon simple, meaningful, ways to get started as you learn how biometrics operate.

A single success can be extended into other areas as users become comfortable with the new technology. Once a few basic applications have been introduced successfully, other opportunities will come to light. Consider biometrics for time and attendance, physical access control and protection of laptops. Laptop protection is an especially good starter since it only requires the satisfaction of one individual user.

Next learn about value propositions that justify the expenditure of funds on biometrics.

Read our companion paper on Business Cases. It is important to quantify expectations as much as possible and have metrics in place to enable results to be compared with original expectations.

In Summary

There can be a lot to think about. The relative complexity and newness of biometrics can prove daunting, but also very rewarding. To assure maximum benefits, start simply and manage carefully. Setting expectations and managing progress against those expectations enables adjustments that assure that investment value will be successfully realized. As implementations prove successful, simple applications can be extended and combined to realize increasing synergies and value.

For more information, please contact:

Rockwood Management Services
 52 Johnson Drive
 Chatham, New Jersey 07928-1168
 973-635-1970
 info@Rockwood.com