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CONSIDER THIS

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#43 *A Level Playing Field*

It is often said that a benefit of standardization is to ensure a "level playing field" among competitors, and so, for the most part, it is. True, a contender with a large war chest will always be able to field a more expensive and forbidding marketing team than a small competitor. But by fixing some of the parameters of the game, each side is both enabled as well as forced to focus on providing more excitement, service, or other differentiators in order to attract more paying fans than its opponents.

OK, maybe my introduction was a little heavy on the sports metaphors. After all, sports have nothing at all to do with standards, do they?

Or do they? In fact, every sport you can think of is based firmly on its own standards, without which that sport could not exist as we know it. And many of the same challenges (how rigid should a standard be? How to avoid forking in how a game is played?) and mechanisms (standards bodies) can be found in the world of sports as well. So this month, let's consider just a few examples of the role of *standards in sports*.

family @ Cowboy Game (courtesy of **foTommEn**)

How about we start with football. It's played with a fixed number of players, using rules that are uniform across a league. Every field is identical to every other field, subject to certain limited, prescribed exceptions. For example, like a technical standard, every field has the mandatory element *grass surface*, but there are two alternative implementations of that same element: *natural* and *Astroturf*.

And, of course, every football playing field must implement the mandatory specification element identified as *level surface*.

Why so much regimentation? One reason is in order to provide as close to constant competitive conditions as possible, so that rankings are meaningful for playoff purposes and statistics are relevant over time.

Rules also give rise to the classic "network effect" of standardization, since with set rules, a distinct sport can become better identified and more widely played, leagues can form and flourish, a huge crop of youngsters can begin training for the careers that only the very best will achieve, and greater adoption (by fans) can occur. Am I straining the example? Check out the Wikipedia entry on football, and see the many different branches of the game that never achieved the popularity of European football, American football, or rugby.

At the same time, vendors (franchise owners) compete on value added features (star players and innovative plays) and make additional profits on non-standardized, but related products and services

(beer, logo-bearing merchandise, programs, and so on). And, of course, there are standards bodies that set the rules, do compliance testing of fields (as well as players' bodily fluids).

The Green Monster, as seen from home plate (courtesy of Wallyg)

How about baseball? The same reality obtains here, with a few important differences: not every stadium is identical (I live in Boston, home of the Green Monster). As happens in many other standard setting circumstances, those who created the stadium standard didn't succeed in setting such a tight standard. It would appear that certain vested interests were able to allow some elements of the physical specification (e.g., the height and distance of the walls that a line drive must top in order to become a home run) to escape the standard despite many good reasons why they should have been fixed. Sound like any technical standard results you've witnessed?

Rigidity of standardization in competition is not always susceptible to the same precision of compliance testing that a linesman's chain (or an Underwriters Lab test) can provide, however.

Meg (courtesy of cdickson1972)

For example, few fields of competition use specifications that are at once as rigid and as subjective as … dog shows.

Consider, for example, the Australian Terrier (left). The standard for the Australian Terrier may be found at the Website of the appropriate standards body, which in this country is, of course, the American Kennel Club. According to the long and detailed specification for Australian Terriers posted at the AKC Website, "[a]ny deviation from this description must be penalized to the extent of the deviation." Bad dog!

How rigid (and subjective) is the standard to which little Meg would be held to if she is entered into competition?

Here are extracts from the c. 1,000-word AKC standard:

> ***Skull*** **-** Viewed from the front or side is long and flat, slightly longer than it is wide and full between the eyes, with slight but definite stop. ***Muzzle*** **-** Strong and powerful with slight fill under the eyes. The jaws are powerful. ***Body*** **-** The body is of sturdy structure with ribs well-sprung but not rounded, forming a chest reaching slightly below the elbows with a distinct keel. The loin is strong and fairly short with slight tuck-up. ***Tail*** **-** Set on high and carried erect at a twelve to one o'clock position, docked in balance with the overall dog leaving slightly less than one half, a good hand-hold when mature. ***Feet*** **-** Small, clean, catlike; toes arched and compact, nicely padded turning neither inward nor outward.

Pity the judge that must look into those eyes and pronounce little Meg's stop to be too indefinite, fill too full, or tail out of balance with the overall dog. Could you?

If that feels like too much pressure, let's turn back to active sports. Sailing, for example. Over a hundred years ago, yachtsman realized that the state of competition would be greater on a race by race basis if everyone used a boat with those design features locked down that are most closely associated with speed.

12 Meter Boats sailing off Jamestown, RI
(courtesy Cruidinx)

The result was the creation of the many classes of boats that are competitively raced around the world today. In the case of boats actually used in the Olympics, not only are the dimensions fixed, but even the materials (and the builders) are prescribed as well.

Of course, standards that are enforced this rigidly are as rare in sports as they are in commerce, and stifle design innovation in the name of pure performance competition (or interoperability). In order to provide for competition in design as well as crew performance, other yacht class rules use complex formulae instead, which allow the designer to adjust each variable as she wishes, so long as the mathematical output, equals the magic number specified in the design class rules in order to qualify.

Hence, 12 meter boats, the algorithm for which is as follows:

$$12 \text{ metres} = \frac{L + 2d + \sqrt{S} - F}{2.37}$$

where *L* equals length of waterline, *S* equals sail area, *F* equals freeboard , *d* equals the difference between girth and chain, *freeboard* means the altitude of the deck above the waterline, *girth* means the measurement around the boat from one sideboard, under the keel and then back over the top on the opposite side back to the original side, and *chain* means,…oh, never mind.

If that bit of mathematica gives you (like me) a headache, you might prefer the nine Square Meter classes, which are rigid in one element only, and open in all others. For these boats, only the total sail area of the boat is fixed, leaving all other parameters to the whim of the designer, as in:

15 sqm = total sail area

Feel more comfortable with that standard? Me, too.

These disparate sailing examples provide a particularly interesting juxtaposition to technical standards, as the range of approaches taken varies from the most fixed to the most rigid, with each choice serving a specific, logical and useful purpose. Among interoperability standards, one could compare (for example) the square meter standard with the physical interoperability standards that control light sockets, each of which involves only a few parameters (e.g., diameter, screw threads, depth), leaving many other attributes of the bulb to the designer (e.g., frosted vs. clear, large bulb vs. small, round vs. candle flame shape, constant vs. flickering).

In short, sports and technical standards have a great deal in common, and why should it be otherwise? Both commerce and sports present the very essence of competition, and that competition can have very high stakes. Increasingly, business and sports are merging into one – sports having become very big business indeed.

In fact, standards, and all of the mechanisms and norms that attend them, can be observed fractally in many different situations throughout modern life. And why not? They work.

They work.

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