

Evolution of the Dental Implant Market: An African Tale Revisited

David M. Dohan Ehrenfest, DDS, PhD¹
James L. Rutkowski, DMD, PhD^{2*}

“When the sun comes up, the Gazelle knows that it will have to run faster than the fastest Lion in order to survive. Each morning upon awaking the Lion knows that it will have to run faster than the slowest Gazelle, or it will starve. The reality is that whether you are a Lion or a Gazelle, when the sun comes up, you better start running very fast.”

This wise tale originated at an international meeting with colleagues from Thailand who had heard it from colleagues in Kenya. It is difficult to know if this is an original African proverb, but this story immediately made us think to the recent evolutions of the implant market. Theoretically, the Lions of this story could be the largest implant companies (Nobel, Straumann, Astra, Zimmer, and some others), with their strong commercial, industrial, and financial stability. The Gazelles would be smaller companies, which are more flexible, cheaper, and are also fighting to survive and develop themselves.

In industry, the laws of the evolution (or at least the law of the jungle evolution) can lead to some very unexpected inversion of roles. In a recent series of

publications about the characterization and codification of dental implant surfaces,^{1–3} we analyzed in detail the chemical and topographical composition of 14 surfaces available on the market—and the analysis of many others will be forthcoming. Some famous large companies had very clean surfaces, but various forms of contaminations, residual particles, or cracks were found on other legendary surfaces. However, smaller companies often had equivalent implant surfaces—and sometimes even cleaner and more innovative—than the surfaces of the largest companies. This example illustrates that the largest companies (like the Lions of the proverb) should not consider that the Gazelles are so easy to catch. Respectfully stated from a technical and engineering standpoint, everyone should keep running because the differences between “Gazelles” and “Lions” are not always significant.

The surface is only one scientific and industrial aspect of the current international competition—a struggle for survival—between companies. The design, biomechanical resistance of the implants, prosthetic systems, cost, and distribution are all parameters where small companies are very aggressive competitors. Relatively small companies are now growing quickly in emerging markets (particularly in Asia, East Europe, Africa, South-America) where their flexibility and low cost allow them to be more efficient than the large companies. Nowadays a large part of the potential growth of the dental implant market is in these countries. For example, Israeli companies are very active in India,

¹LoB5 unit, Research Center for Biomineralization Disorders, School of Dentistry, Chonnam National University, Gwangju, South Korea. LoB5 unit, Department of Stomatology, Oral Surgery, and Dental and Maxillofacial Radiology, School of Dental Medicine, University of Geneva, Geneva, Switzerland.

²Clarion Research Group, Clarion, PA, USA. Department of Restorative Dentistry, State University of New York at Buffalo, Buffalo, NY, USA.

*Corresponding author, e-mail: ehrenfest@me.com
DOI: 10.1563/AAID-JOI-D-12-Editorial.3803

China, and Eastern Europe, and the many Korean companies have almost half of the market in Asia. The companies from these countries are not well known in Europe and North America, but they sell more implants than the European or American companies; although admittedly, exact quantities are impossible to know.

In short, many Gazelles are running faster than the Lions, and some Lions are already starving or at least not eating as much as they would like. In some aspects, the Gazelles are becoming young Lions. Consequently, the old Lions have to share the oldest and slow-growing markets with more and more competitors.

For all these reasons, the industry is evolving. Large companies have to change old strategies in order to be more competitive. Among the Lions and the Gazelles, it is possible to find companies that are no longer unique and significant. Many small companies are targeting only a low-cost market. Others are trying to reach a compromise between quality of products and services, and price. It is not impossible that at the end of the day, this will be the Gazelle who will eat the Lion—or at least

let him trap himself in a river or under an avalanche.

In the coming years, the clinicians will witness these evolutions within our industry. We can hope that this competition will bring clinicians the best products and with it a reasonable evolution in price for implants. In these times of tough competition, reduced market prices, and globalization, one thing is clear: whoever is the Lion or the Gazelle, all have now to run very fast—commercially and scientifically—to survive. In this highly competitive market, patient care may be the real “King of the jungle”.

REFERENCES

1. Dohan Ehrenfest DM, Coelho PG, Kang BS, Sul YT, Albrektsson T. Classification of osseointegrated implant surfaces: materials, chemistry and topography. *Trends Biotechnol.* 2010;28:198–206.
2. Dohan Ehrenfest DM, Vazquez L, Park YJ, Sammartino G, Bernard JP. Identification card and codification of the chemical and morphological characteristics of 14 dental implant surfaces. *J Oral Implantol.* 2011;37:525–542.
3. Dohan Ehrenfest DM. Fractal patterns applied to implant surface: definitions and perspectives. *J Oral Implantol.* 2011;37:506–509.