



The first in a series of special reports on Israel



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Special Report

ISRAEL'S MARKETING CHALLENGE



Israel faces a dual marketing challenge. First, similar to countries like Afghanistan and Iraq whose wars dominate the news, Israel's public perception is marked by images of violence and conflict rather than ones suggesting stability and a hospitable business environment. This leads to the second marketing challenge, that of Israeli companies striving to attract investors and customers even as they contend with a tide of negative world opinion. How can a small but innovative country - with enormous expertise in fields such as technology and medicine - overcome this two-part marketing challenge? In this special report, Wharton marketing professor David Reibstein sets the stage by offering insights into both the opportunities and obstacles that Israel faces; David Pottruck, former CEO of Charles Schwab & Co. and now CEO of Red Eagle Ventures, joins Wharton marketing professor Yoram (Jerry) Wind to suggest ways that Israel can tackle its marketing challenge; and investment maven Michael Steinhardt explains his views of Israel and the role of the Birthright program in connecting youth around the world to their Israeli heritage. In addition, Better Place CEO Shai Agassi discusses his electric car project and the reasons why it took root in Israel, and venture capital expert Gideon Tolkowsky presents lessons in globalization based on the experience of Israeli firms.

CONTENTS

Israel's Image Problem and What to Do about It

Page 5

In its 61-year history as a modern nation state, Israel has become synonymous with conflict and controversy, creating friction with hostile neighbors and, at times, setting itself up as a target for international reproach. But is Israel getting short shrift? Have Israelis been letting themselves down by failing to showcase their strengths? In an interview with Knowledge@Wharton, Wharton marketing professor David Reibstein explores the consequences of Israel's tarnished reputation, not only for the country in general, but also for Israel's business community, while also considering whether using better public relations and marketing tactics could improve Israel's image.

A New Kind of Campaign: Changing the World's Perception of Doing Business with Israel

Page 8

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Michael Steinhardt Discusses Israel's Place in the World

Page 13

Following a high-profile career in finance in which he became one of the first well-known hedge fund managers, Michael Steinhardt began the Taglit Birthright Israel program, a philanthropic enterprise which has provided free 10-day trips to Israel for some 220,000 Jewish youth to learn more about their heritage. Steinhardt spoke with Knowledge@Wharton about how the program helps to improve the country's image and the challenges of what he calls a deteriorating educational system in Israel — marked by a brain drain in higher education. Steinhardt also discussed the country's culture of business innovation and how deep democratic roots can sometimes slow progress.

CONTENTS (Continued)

Shai Agassi, Israel's Homegrown Electric Car Pioneer: On the Road to Oil Independence

If there's a poster child for Israel's entrepreneurial spirit, start-up Better Place is one strong candidate. Since launching the company in 2007, Shai Agassi — a 41-year-old Israeli entrepreneur and former executive of software giant SAP — has been shaking up the auto industry with his vision for mass adoption of zero-emission vehicles powered by electricity from renewable sources. Starting off with \$200 million of seed money, Better Place has since been setting up networks of service stations for electric cars, helping to wean drivers from their environmentally unfriendly gas guzzlers. The timing couldn't be better: Nissan recently unveiled its Leaf electric car whose battery can power the car for up to 100 miles (160km) on a single charge. According to Carlos Ghosn, Nissan's boss, pure electric vehicles could make up 10% of the world's market by 2020. John Paul MacDuffie, a professor of management at Wharton and co-director of the International Motor Vehicle Program, joined Knowledge@Wharton to interview Agassi from the company's headquarters in California about what it takes to develop an oil-independent future.

Globalization of Technology Ventures: Lessons from Israel

Page 25

Page 19

Technology is universal, and technology markets are relatively culture-insensitive. Still, the fact remains that surprisingly few high-tech startups that were conceived outside the U.S. or the world's primary technology markets have evolved into global companies. Why is this so? In this opinion piece, Gideon Tolkowsky, principal of Israel-based BME Capital Management, who has been involved in venture capital in the U.S. and Israel for more than 25 years, offers some lessons from Israeli high-tech startups.



Israel's Image Problem and What to Do about It

In its 61-year history as a modern nation

state, Israel has become synonymous with conflict and controversy, creating friction with hostile neighbors and, at times, setting itself up as a target for international reproach. But is Israel getting short shrift? Have Israelis been letting themselves down by failing to showcase their strengths? In an interview with Knowledge@Wharton, Wharton marketing professor David Reibstein explores the consequences of Israel's tarnished reputation, not only for the country in general, but also for Israel's business community, while also considering whether using better public relations and marketing tactics could improve Israel's image. The following are excerpts from his remarks.

Knowledge@Wharton: Israel is often viewed as a region of conflict. Could you explain what that means for the country's image, especially within the business community?

David Reibstein: It means a very significant thing on one dimension and that is: Can we rely on Israel, or the region, to be a source of supply [of goods and services] given that the supply at any time might be threatened because of conflict? As a result, it makes it more difficult for companies to depend on the region.

Knowledge@Wharton: What efforts has Israel made to improve this image?

Reibstein: For the most part ... I don't think Israel has really tried to [tackle] that issue head-on, primarily because, in spite of the region's reputation that it is often in conflict, Israel has been very reliable in terms of being able to continue to produce and deliver....

Knowledge@Wharton: That's right, especially as far as its business potential is concerned. What would you consider are the major strengths that Israel needs to emphasize?

Reibstein: Israel has a history of having developed a number of great technologies that have come to market and done very well. There is a whole tradition ... of innovation. That's its biggest strength.

"In spite of the region's reputation that it is often in conflict, Israel has been very reliable in terms of being able to continue to produce and deliver...."

—David Reibstein, marketing professor, Wharton

Knowledge@Wharton: What do you think Israel could do to communicate that more effectively?

Reibstein: Israel probably is not as widely known for all the things that it has developed [as it could be]. It could do a better job of [showcasing] all that it has brought to the world economy.

It's been very much an individual business and entrepreneurial effort, rather than a collective effort to say, "This is a national issue and we as a nation need to be doing something to address it." I don't think [the latter] has been the country's approach, but it would be something that the country could do.

Knowledge@Wharton: What do you regard as some of the major obstacles that Israel faces in improving its global image, and how can they be overcome?

Reibstein: [Israelis have a major issue] as marketers. They are phenomenal at the development of technology, as we were just talking about. [But because] of who they are and where they have come from, they are not very good marketers. There is a lesson in there that they could work on. Let me expand on that just a little bit.

Israel as a nation has had to survive [by being confident that] what it is doing is the right thing. It's been surrounded geographically by enemies and had to fight for its existence.... [Israelis] needed to have confidence in themselves and [have] the strength to follow through with what they were doing. The generation of Israelis running the country today has been in positions, militarily and politically, where the region has been opposed to them and often the world has been in objection. They've had sanctions by the United Nations on numerous occasions and have continued to say, "We believe we are doing the right thing and we're moving forward."

As a result, most of us know Israelis [who] have a great deal of conviction and confidence in their own beliefs. That has been a major strength and has allowed them to take product ideas ... forward. So often ideas fail because if they hit a speed bump, people abandon them. Israelis have been very good at having confidence and wanting to make sure that things get completed.

The bad side of all that is their self-confidence gets in the way of learning, adjusting and in particular, listening. So the need for marketing research ... and more broadly put, the role for listening to what the market says that it wants is not as evident [in Israel].

Israel has developed a lot of technology ... and [the Israeli companies that have developed that technology] have made money not by going to market with it but by selling [the businesses producing that technology to other companies]. It's hard to think of Israeli companies that have a large presence in the marketplace.

Knowledge@Wharton: How can Israel become better at listening to the market and to, say, world opinion?

Reibstein: It is a difficult task because to a large degree [it] is a cultural blindness.... And it's personality. It's a personality that has really been critical for the long-term survival of a nation.

They need to get to a stage where they recognize the importance of hearing from customers and making sure that their views are what the market responds to....

Knowledge@Wharton: What are the differences between Israeli companies marketing themselves to the world and Israel as a country marketing itself as a brand to the world? There are two different challenges. How can they be tackled?

Reibstein: Israeli companies don't have to be identified with Israel.

They need to first of all listen to what their customers need and want, [and then] offer that, just like any other company would. The country of origin shouldn't be that big of an issue.

Israel marketing itself as a [nation] requires a greater ability to communicate that this is a region to be sourcing from and doing business with. That would require skills in terms of communicating about the stability of the region or the confidence in a country being able to produce even in the circumstances that it often finds itself in.

Knowledge@Wharton: Some other countries have had image issues, like India or China. India for many years was blighted by [a reputation for] having a "Hindu rate of growth" of only 3% that it would never break out of. And these countries have successfully used platforms like the World Economic Forum in Davos to improve their image. Are you aware of whether Israel has tried such tactics?

Reibstein: I am not aware that Israel has tried such tactics. Again [it comes down to] this belief and overall self-confidence that, "Of course we are good. And of course we as a nation produce good products." It might be a large tactical error on its part to not have tried [platforms like Davos]. On the other hand, what I referred to earlier is that as a nation, the thing that [Israelis] have going for themselves — an ability to overcome concerns about whether they can be relied upon given the hostile environment that they're in — is their track record.

Knowledge@Wharton: Are there any special measures that Israel could take to market itself to non-Jewish countries and non-Jewish populations in countries like the U.S.?

Reibstein: The answer is absolutely. In particular, it seems to me that most people don't buy products based on religion. Most people buy products based on performance. So there is no reason for them to be thinking, "How do we market ourselves to non-Jewish communities?" [Instead, it should be] "We market ourselves by offering good products and good services." That's the best tactic they can use.

Knowledge@Wharton: If you were speaking to [Prime Minister] Benjamin Netanyahu instead of me right now, what advice would you offer him about marketing the brand of Israel?

Reibstein: I actually had the opportunity to speak with [President] Shimon Peres. So the advice that I'm going to suggest is not hypothetical but is what I did recommend at that time. What we saw was a nation that was fighting a war, [in] a conflict with the Palestinians [in 2000/01]. And they believed that what they were doing was right and that militarily Israel has always done very well in such battles. But in global opinion, they were losing many of those battles primarily because across the airwaves pictures were appearing of [Palestinian] children throwing rocks [at Israeli soldiers during clashes in the West Bank] and collateral damage occurring. And Israel didn't care about public opinion. They thought, "Militarily, we're doing the correct thing. We're trying to defend our borders" and the world would know that what they were doing was right.... They lost a considerable amount of public confidence. And they have spent very little on [PR] and showing as a nation why they have had to do some of the things that they have.

My recommendation to Netanyahu would be that it is essential that they pay attention to public opinion. And that they need to invest some effort in explaining to people why as a nation they've been doing what they've been doing. That means educational PR, not propaganda, to lay out exactly what the rationale is. It cannot be driven just by that self-confidence of, "We know what is right and everybody else will just have to put up with it."



A New Kind of Campaign: Changing the World's Perception of Doing Business with Israel

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sees images of Israel that suggest a country defined by conflict and violence. Yet Israel has also made substantial contributions to the global marketplace in such industries as technology and medicine. The challenge for Israel going forward is to make the world more aware of its hospitable business environment. Marketing professor Yoram (Jerry) Wind and David Pottruck, chairman and CEO of Red Eagle Ventures, talked with Knowledge@Wharton about steps Israel can take to improve its image.

An edited transcript of the conversation appears below.

Knowledge@Wharton: Our guests today are David Pottruck, chairman and CEO of Red Eagle Ventures, and Wharton marketing professor Jerry Wind. David, Jerry, thank you so much for joining us today.

"So when you have this overwhelming amount of information, which is about one topic — violence and conflict — that becomes your brand."

—David Pottruck, chairman and CEO, Red Eagle Ventures

The topic we want to talk about is Israel's marketing challenge. We are looking at it on two different levels. The first is, what do you think is the challenge that Israel faces as a country in marketing itself to world opinion? Very often people tend to think about

Israel as a region of conflict. What implication does this have for the business environment?

David Pottruck: I think that if you look at news stories written about Israel, they are almost entirely about violence and conflict. There's almost nothing [positive], let's say in America, that the average person gets to read about Israel. So when you have this overwhelming amount of information, which is about one topic — violence and conflict — that becomes your brand. That's what you're known for.... I think Israel needs to tell a different story, but that's not an easy thing to do given the amount of news that comes out about the violence and conflict. So it's got to be a really active, thoughtful, committed campaign if they are going to move their image beyond that.

Knowledge@Wharton: Jerry, what's your take on the challenge that Israel faces?

Jerry Wind: I fully agree with Dave, and there's a consequence of this. A survey a few years ago done among 28,000 respondents in 28 countries by the BBC found that Israel was the number one country with the most negative attitudes toward it in terms of promoting negative influence on the world, which is quite shocking. The only kind of good news about this, if one can look at it as such, is that the U.S. was [number] three. So we're in good company. Unfortunately, Iran was number two. But it's quite shocking that the outcome of this media coverage that Dave is talking about has led to these types of very negative perceptions of Israel and also led to boycott efforts in the UK — for example [boycotting] cultural exchanges and university exchanges with Israel. So I think it has huge implications and it has to be changed.

Pottruck: Let me give you an example. My wife was selected to be in an opinion survey a few years ago. The topic was: Is there a bias in reporting, between the Israeli point of view and the Palestinian point of view, in The San Francisco Chronicle, which is [the newspaper] where we live. They showed pictures, photographs and stories going back for several months to a theoretically objective audience. What you had was an overwhelming amount of photo coverage of slain Palestinians, with no photo coverage of slain Israelis. There are lots of [slain] Israelis, but the Israelis don't publicize, don't show photos of, the carnage that [results] from rockets coming out of Palestinian positions such as Gaza. So although I understand why Israel takes that approach, we need to be realistic about the nature of the coverage and the photojournalism that shows these horrible photographs of the damage caused by Israeli military retaliation. It's almost always retaliation, but that doesn't matter. It's not the visual that appears in newspapers around the world.

Knowledge@Wharton: Based on what you both have said, it's clear that there are negative perceptions about Israel as a country. This brings us to the second question, which is what kind of marketing challenges does this create for Israeli companies that are trying to market their goods and services to the world, [given that] Israel has such a small domestic market.

Pottruck: I'll give you an example. I'm on the board of Intel. We are one of the major employers in Israel. A few years ago, I went to Israel to visit our factories, meet with our people, and meet with the venture capital community there that we support. I hadn't been to Israel in 30 years.... I expected to see a state that was in a military lock-down because this was a few years ago when there was a lot of conflict going on. What I found was a country that felt like the United States. I mean, I thought I was in New Jersey. It was just same old, same old stuff. A little more security in some of the hotels that you went into, but it wasn't in a state of lock-down or violence or people afraid to walk the streets, which is what you would think from the newspapers that you read. Therefore, I believe that when companies who don't know better are thinking of doing business in Israel with Israeli companies, they worry about the security of the company. They worry about the security of their employees going to Israel. They start with a very big misconception of what it's like for people to do business with Israel. This is a big burden - a huge burden.

Wind: I fully agree with Dave. Actually, you can even think about not only investing in Israel, but also about tourism and about what universities do. It's guite often that universities follow the State Department requirement for restrictions in travel. Then suddenly students cannot travel to Israel. This is a major problem. The other aspect of the question is what does it do in terms of the ability of an Israeli company to market around the world? Here, the question is what type of industry and what type of markets are you dealing with? I have not done a study on this, but I would hypothesize that in the high-tech area, there won't be much of a problem because of the reputation and the innovation of Israel in this [field] and also in the medical area. When you move to consumer packaged goods and others where you require acceptance by wider audiences, an Israeli company will face problems in countries where the image of Israel is very bad especially if they are the kind of people who start seeing "Made in Israel" and then suddenly they have all the [negative] images they saw on TV. There may also be problems in areas [that involve] government purchases. If the government has a negative attitude, this definitely could affect the Israeli industries that are trying to sell to these countries.

Knowledge@Wharton: Jerry, what kind of efforts has Israel made to change this image, and to what extent have those efforts worked?

Wind: There are scattered efforts. There is an office within the foreign ministry office in Israel that is focusing on brand Israel. They have had a few initiatives. Typically they are centered on some major population centers. They had some ads in New York. They are scattered. They are not organized. And they never had the impact that's required. We have tried over the years, especially through my involvement with the Interdisciplinary Center in Herziliyya, to initiate ... more advanced approaches — especially when you start thinking today in terms of social networking and how you get started influencing masses of people by having a major presence on social networks and the like. But the receptivity has been mixed.

Knowledge@Wharton: What would be some of the reasons for that, David? What are the obstacles that Israel faces in improving its public image and how can they be overcome? Because as you were saying earlier, companies like Intel have actually been pretty successful at the kind of work they have done in Israel.

Pottruck: I think Israel has to have a clear sense of what the story is we are trying to tell. I recently saw an ad I think was for tourism in Israel and showed people running around the beaches and that kind of thing. I think that's a gigantic waste of money. I can't imagine that's going to work. We need to mount an educational campaign. We need to leverage public relations. There needs to be stories told to reporters that are substantive stories about Israel, about what Israel is doing, about the good things Israel does. Israel even does good things in the Arab world. We sell and lend and support technology transfer to Arab countries. There are a lot of things going on in the more enlightened Arab community to partner with Israel. These are the stories that need to be told. There needs to be a thoughtful effort whose foundation is much more public relations than advertising. If anything, the advertising should follow the stories and reinforce the stories. But this notion that we're going to run ads about the beaches of Israel and show people having fun vacationing is not well thought through.

Knowledge@Wharton: So what would be some of the strengths that Israel and Israeli companies should be talking about in this kind of campaign? Jerry?

Wind: I agree with Dave that advertising is not the solution, especially the type of ads they've been running. I would add to the P.R. focus the need to engage, to create platforms, to engage more people, to engage the companies, to engage the Israeli citizens. What's interesting about the Israeli students in the U.S. is that it's a huge number. If you engage all of them and start communicating with friends and others using social networking techniques today, I think it can have a huge impact. The problem, unfortunately, is that there is very little credibility for the government when they come out with statements. So you need to start showing the impact of what Israel is doing. If you can start showing how Israel has changed itself — if you think about the enormous development there — if you can see the impact it has had on other markets, including the Arab countries and others — if you can tell about the impact on medicine, which would be different without Israeli innovation in this area. Think about high-tech. Talk about Intel and the impact it has on every single person who uses computers today. Start focusing on the impact.

It reminds me. There was a great marketing campaign recently — the Whopper Freakout. There are two kids. The store is Burger King. And when

people came and asked for a Whopper, [the store] said there's no more Whopper. They videotaped the reaction of people to the Whopper.

What would happen if Israel did a day without Israel? How will the world look without the impact of Israel in high-tech ... medicine or literature? Just think about the number of Nobel Prize winners who are Jewish and related to Israel over the years. Start emphasizing the good things. Move away from the current kind of absurd publicity that's there. At the same time, we cannot ignore the issue of the Palestinians so we have to address it. We have to address it fast and effectively.

Pottruck: Picking up on what Jerry said, in a sense what's needed is two efforts. One is the positive storytelling. If you think about Israel as the model democracy in the Middle East and as a place that's exporting ideas and innovation to the world, you could build upon that as an example, as a foundation, to tell the story of Israel. [It's the] model democracy of the Middle East. Everybody votes there — not just the Jewish population. The parliament — the Knesset — has representation from every part of society. They all get together. They talk about what's good for everybody. The minority counts in that kind of a system. That story needs to be told.

But the other part that also needs to exist is coming out of a political campaign. Every political campaign now has its sort of five-minute turnaround of news. If there's a bad news story, there is an immediate reaction. Bill Clinton really built this in his early campaign, [with] a war room to deal with negative stories, put out their side of the story, change the spin. Israel doesn't do that. Israel needs to have a P.R. focus to defuse the negative stories and try to get its side of the story told. They ... talk to themselves. They're not sensitive to the importance of world opinion. So they have positions that are popular within Israel and there's no thinking about how the rest of the world sees some of this stuff.

Wind: This war room has to be in every country. You cannot have it just centralized in Israel. It has to be in every country, in the local language, responding immediately and with visuals. Israel should have the war room in Israel the same way it provides the military side, the communication side. Israel has been losing the communication war.

Pottruck: The Israeli government has to understand how important this is. For the cost of one jet, they could do all this. And it's almost as important,

because we are definitely losing the world opinion war and it's getting worse and worse. Israel is getting more and more isolated and that's very sad to see.

Knowledge@Wharton: Some countries that have had problems with world opinion — say for example, India or China — have successfully leveraged platforms like the World Economic Forum in Davos to help change the perceptions of world opinion. Has Israel tried such tactics and to what extent? What has been the outcome?

Wind: I'm not familiar with any serious focused effort in Davos. I know a lot of Israeli politicians and a few business people who come to Davos, but it's not with a focus on trying to do that. We can go actually closer to home. Look at the problem of the U.S. in terms of the U.S. image around the world. There is a group that I'm kind of on their advisory board — the Business for Diplomatic Action — that's really trying to mobilize business to try to improve the U.S. image around the world. There is no such group in Israel. So definitely, more can be done, but I think it has to be done by everyone. The government has to obviously provide the information, the visuals, so we can provide the ammunition that you need. Businesses have to do it. Citizens have to do it. Students have to do it. We need a massive effort to try to change the current perception.

Knowledge@Wharton: David, you referred earlier to telling positive stories. As far as companies go, what are some of the experiences that international companies doing business in Israel have had? How have they leveraged Israel as part of their global strategies?

Pottruck: I think Israel is an incredible center of innovation, especially in technology and medicine. Companies that are in those businesses know that you would be simply foolish not to reach out and figure out whether Israel has something that you can leverage in your [area]. There's a lot of B2B selling. Most of the products coming out of Israel are business-to-business. They become components or pieces, or they get repped by other companies. I think if you talk to venture capitalists and high-tech companies where I live in Silicon Valley, they would all tell you that they're going to Israel on a regular basis. They are meeting with the business community there trying to establish relationships to see what kind of business opportunities there are. Knowledgeable people in the world of high

technology and medicine know that you would be foolish to avoid Israel because their thinking and their innovations are breakthrough and [they lead] the world. So that story is told. That already happens today, and I don't think Israeli companies selling business-to-business are really suffering very much because their reputation is that strong.

Knowledge@Wharton: What was Intel's experience like in Israel?

Pottruck: Twenty-something years ago, [CEO] Andy Grove went to Israel and hired four people to become a development lab for Intel. Today I think we have somewhere between 6,000 and 8,000 employees. Our most high-tech products often come from Israel. Our head of technology is an Israeli who is now living in California. We have three or four factories scattered around Israel, so it is a very, very important part of our infrastructure at Intel.

Knowledge@Wharton: Jerry, any other examples of successful Israeli companies that have done a good job of marketing themselves that other companies could learn from?

Wind: I can't think of any Israeli company that will serve as a role model for marketing, but I can definitely think about numerous companies that, as Dave said, benefit from Israel technology. Microsoft. Almost all major high-tech companies have a presence in Israel today. As we see increasing focus on open innovation, especially among U.S. companies but also other companies around the world, Israel is definitely part of the open innovation strategy. So I don't think that this is going to dramatically change the topic we started with, which is the poor image of Israel as a country. But I think we can leverage this in terms of getting to the masses, getting to the people who are currently influenced only by the stories they see on TV, if they [come to] know more about the impact of this high technology innovation and medical innovation. But in the marketing itself, I cannot think [of] too many Israeli companies that are setting the pace.

Knowledge@Wharton: That may be a part of the challenge. I have one final question for each of you. Let's assume that there is a fourth seat at this table and that Mr. Benjamin Netanyahu is sitting here. What advice would you give him about improving the marketing of Israel? David?

Pottruck: I think that the Israeli leadership is pretty consumed with talking to themselves. They almost

feel to me tone deaf in terms of how they portray themselves to the world. I wouldn't say this about every one of the leaders, [and] perhaps the political climate there is so difficult and the coalitions that are formed are so difficult. But it feels to me like there's not enough concern about world opinion. It's sort of, "This is who we are. Take us or leave us. We're pretty wonderful. You should like us." That's not good enough. So my advice would be the things we've talked about today. Pay attention to world opinion. Believe that you can influence world opinion. And spend the time and money to accomplish that. It's worth it. It will make a difference. That would be my advice.

Knowledge@Wharton: Jerry?

Wind: I think Dave's advice is terrific. I would suggest that [Netanyahu] basically do three things. One, the government should appoint a czar, or a champion, who will try to coordinate and provide the war room of communication that will provide almost instantaneous information — especially visual — all over the world to anyone who wants to use it to try to counter the attacks on Israel. Two, to use his incredible skills to encourage everyone in Israel to engage in communicating. I don't think just the government alone can solve the problem. So you have to encourage everyone. Encourage the students who are everywhere around the world. Encourage companies. Encourage tourists who are coming to Israel. Encourage everyone to start carrying the positive stories that Dave was talking about. Hopefully there'll be a link between the two initiatives because they provide the material, the information, they need for doing it. And, third, I think he should first of all allocate some resources for this. Taking the price of one jet is a great starting point. And perhaps even establish the prime minister award for the best efforts in improving the image of Israel. \$\primax\$



Michael Steinhardt Discusses Israel's Place in the World

Following a high-profile career in finance

in which he became one of the first well-known hedge fund managers, Michael Steinhardt began the Taglit-Birthright Israel program, a philanthropic enterprise which has provided free 10-day trips to Israel for some 220,000 Jewish youth to learn more about their heritage. Steinhardt spoke with Knowledge@Wharton about how the program helps to improve the country's image and the challenges of what he calls a deteriorating educational system in Israel — marked by a brain drain of higher education professors. Steinhardt also discusses the country's culture of business innovation and how deep democratic roots can sometimes slow progress.

An edited version of the transcript follows.

Knowledge@Wharton: I'd like to ask you about something you wrote in your autobiography, No Bull: My Life In and Out of Markets. You said that the formation of Israel had a profound impact on you, especially the image of people rising like a phoenix from the ashes of the Holocaust. Can you tell us about that impact, and how it has shaped your thinking and your life?

Steinhardt: The question itself is not so complicated but the answer is, because for me Israel became the substitute for the Jewish religion, which was fading in importance for me as I became an adult. And in some sense Israel was the miracle — the Jewish miracle — in my life; I refer to [it in my book], as you said, as a phoenix rising from the ashes, because I didn't believe in miracles. Yet the circumstance of Israel's birth, and the well-articulated vision of relatively few people — surrounded by tens or hundreds of millions of enemies — who were outnumbered in all sorts of ways, but managed to survive and ultimately achieve a

vigorous, democratic, prosperous society, is an extraordinary phenomenon. And for many secular Jews it has been the single miracle of the 20th century, for that and other reasons related to its own growth — the fact that it attracted so many of the world's poorest third-world Jews from places like Ethiopia and Morocco, and has done so many wonderful things. So I am totally biased, totally unobjective in terms of Israel and its history.

"I am totally biased, totally unobjective in terms of Israel and its history."

-Michael Steinhardt, Taglit-Birthright Israel

Knowledge@Wharton: The image of Israel being surrounded by enemies has often had the effect of the country being seen as a zone of conflict. What effect has this had — if you think about it in corporate terms — on Israel's brand? And what has this meant for Israel's image around the world?

Steinhardt: Well, that's a very good question. On the one hand, for its first 30, maybe 40, years of existence, Israel was clearly viewed as an underdog because of its limited population and the fact that those [countries] around it seemed so much stronger, had all that oil, population and power. And that, on some level, remains true. However, in the last 20 or 30 years — maybe even 40 years — something has changed in that brand [image], because during the Six-Day War, Israel won such an overwhelming victory that it ... occupied — I can't use a better word — lands that heretofore had not been occupied by another Arab country but had

either been disputed or, in one way or another, not controlled by Israel. [The lands were] controlled by Jordan, perhaps, or in some ways not controlled at all. But that process — whereby in the last 40 years, Israel has now been seen as an occupying power — has changed that image to the broad detriment of Israel's overall world image. Israel has gone from being an underdog to something else, and that has changed Israel's ability to gain sympathy.

I'm not sure how important that is, but one can't deny that, even though Israel has a population of seven million ... in its region it is stronger than the Palestinians and probably also the countries immediately surrounding it. It has, unfortunately, taken on the role of a militarily superior power and it has gotten a different image - one that I think is found to be unfortunate, in some respects, in the world. That quality has been taken advantage of by Israel's enemies and by others who are not necessarily its enemies but see the opportunity to use all sorts of imagery [to make] terrible analogies between the Holocaust and Israel being a Holocaust creator.... So Israel's image in the world has really declined, and I think if one could have an index ... of Israel's image in the world over a period of time - if there were any such indices - I think Israel's image would probably be at a low today.

Knowledge@Wharton: As you just said, Israel has a small population of seven million. Israeli companies are, therefore, dependent on growth not just on the domestic market, but at a relatively early stage of their lives when they are trying to go global. How does the image of the country affect the prospects for Israeli companies, in terms of the marketing challenge that they face? Could you speak to that?

Steinhardt: That's something I have found enigmatic over the years.... [As a] Zionist, I have paid attention to Israel and its fate and fortunes up and down, pretty much since its birth. And I must say that, at times, I have really been surprised at the intimacy of some of its commercial relationships [with countries] when its political relationships with those same countries have been dramatically and starkly different. An example of that would be India, with which Israel has had close commercial relationships for a long, long time while, for various periods during that timeframe, political relations have been weak at best. Now, its commercial relations continue to be strong and its political relations have gotten considerably stronger — in part, I suspect, because India has begun to recognize that Israel is

a reliable, strong ally in a world where it finds itself surrounded by uncomfortable neighbors. So India has finally been more comfortable in being more overt in its political relationship with Israel. Maybe that's a little simplistic, but not very much more than a little simplistic, I would say. That's but one example of where the commercial relationship has been strong, almost covertly, for a long period of time, and has now become overt.

Knowledge@Wharton: In addition to the political ties, there has also been a strong cultural affinity between Israel and India, based partly on the fact that there have been Indian-Jewish communities active in the commercial sphere for many, many years.

Steinhardt: Indeed.

Knowledge@Wharton: Some of the leading philanthropists who have done wonderful things in India — like David Sassoon and others — have contributed enormously to India. I think that [the relationship between Israel and India is] in some ways coming into its own, given the geopolitical situation — the most dramatic example of which was seen last year during the terrorist attacks on Mumbai.

Steinhardt: You are entirely right. As an aside, I just came back from Israel. As you may know, I helped created an enterprise — a philanthropic enterprise — in Israel, which is called Taglit in Hebrew, meaning "discovery." In English, it's called Birthright Israel. I was there for a summer launch during which we had, I think, 40 Indian Jews coming to Birthright. And I was amazed that all of these 40 young people were, I think, from Mumbai. It was a wonderful thing to see these young people celebrating their Jewishness in Israel, on Birthright, coming from Mumbai. There was something very special about it.

I have a friend who runs an organization and has devoted considerable energy to [encouraging people] from another section of India to make *aliyah* [or emigrate] from India to Israel. So you are right, there is an important cultural history, and I think India has mixed feelings about the efforts of some Israelis to encourage Indian Jews to leave India to live in Israel. But there is a special relationship there.

Knowledge@Wharton: You're absolutely right. In fact, I don't know if the students you met happened to mention that one of the oldest synagogues in

India happens to be in Mumbai [the Gate of Mercy Synagogue built in 1796]. But to come back to the Birthright program, could you tell what inspired you to start it, and what your goals and your dreams were about the program? Sometimes dreams are more important than goals.

Steinhardt: I agree with you. In the world today, there are — depending upon one's definition — between 12 million and 14 million Jews. At the end of World War II, after the Holocaust, the number of Jews was not much different than it is today, reflecting in some sense how bad, how weak, our demography is. At one point before World War II, it was said that there were 18 or 19 million Jews, and six or so million were lost in the Holocaust. But now, 60-plus years later, there has been very, very little population growth. And you can ask the question: Why?

Knowledge@Wharton: I was just about to.

Steinhardt: Because in a normal context, the number of Jews in the world should have grown quite a lot. But after World War II, particularly, it was so uncomfortable for so many people to be Jewish that there was a great deal of out-migration. People named Levi became Lang, or people changed from Jewish names to Anglicized names. People did all sorts of things to avoid being Jewish, and that happened in America. And it happened in Europe.

Even today in Russia and in other parts of Eastern Europe, there are so many strange and unusual, sometimes miraculous, things happening. In Poland, for instance, it was determined that there were a few thousand Jews, at most, left. And now [the number] has grown to maybe 15,000. Where did those people come from? They came from their parents or their grandparents telling their children that they were really not their grandparents but that they were given these babies during the war to take care of them and they brought them up. But their real parents were killed in the Holocaust. Many people are finding out that they were really Jewish and this isn't a vast number of people, but it's a meaningful number of people. So, Poland suddenly has at least some Jewish population. Now, put it in perspective that there were three million Jews in Poland, and maybe now there are 10,000 or 15,000, but there's this great burst of Yiddish and Jewish culture there. In Russia — if you speak to Sergio Della Pergola, who is the great demographer at Hebrew University, he will say there are 300,000 or 400,000, or at most 500,000, Jews in Russia. If

you speak to the Chabad organization, they will say there are two million Jews in Russia. Now it's not a question of miscounting; it's a question of perception as to who is Jewish and how you define Jews and who is coming back and who — during that long twilight period called Communism when religion was outlawed — forgot their Judaism and who didn't, and who is now remembering it.

So you have all sorts of strange things like that happening, but the fact is that there are very, very few of us. One can almost cavalierly say that there are only two centers of Judaism left in the world that really matter, and they are Israel and North America. Israel has between five and six million Jews [in a] population of seven million, and the United States has maybe six million Jews. And if you take that six [million], and almost six [million], you get to 12 [million]. And maybe in the rest of the world you can squeeze out another two [million]. That is it. But in the United States, you have an intermarriage rate that is something like 50%. And if you go west of the Mississippi, it's like 80%. If you go to Denver and San Francisco, it's overwhelming. In the secular, non-Orthodox Jewish community, we are integrating, assimilating, which follows the long traditional American pattern — but if a Jew disappears, there's nothing there to replace him. If a Catholic isn't a Catholic [anymore], he still celebrates Christmas. He's still a Christian. But if a Jew disappears, what does he become? Probably a Christian.

I started Birthright to try to instill in the next generation of non-Orthodox Jews a sense of their Jewish heritage. And that's basically what it's about. The quality of Jewish education in America is really poor. Many young people go on the trip because it's free, and they would take a free trip to Israel or India or Italy or Ireland. But they're only offered a free trip to Israel. And many of them come back understanding that there is something to their Jewish heritage. They come back understanding that when they walk in the cemetery on Mount Zion and they see photographs on the graves of 20-year old Israeli soldiers that it's not but for an accident of history that they could have been a soldier in the Israeli army as opposed to a kid growing up in Great Neck [New York] and living an upper-middleclass life filled with luxury and never having to think about the military. The idea is to create, at this last moment in youth, a sense of Jewish identity, which the Jewish education system in America has failed to do.

Knowledge@Wharton: Has the program achieved what you wanted it to?

Steinhardt: I think the real answer to that will only be seen in the longer term. There are some positive indications. We've sent 220,000 young people on this program from, I think, 52 different countries, and I think as many as 15,000 have returned to Israel — even though the objective is not for them to return to Israel, not for them to make *aliyah*. But some of them are deeply inspired. Many of them, to the degree we can measure it — and we do measure it — act differently than their peer groups who have not gone on Birthright. They tend to want to marry Jewish people. They tend to want to observe Shabbat [and do] things like that relatively more. So, there are at least superficial indications that [the program] is having a positive impact.

Knowledge@Wharton: In your professional life, you think consciously about return on investment. How would you measure the return on the investment you have made in the Birthright program?

Steinhardt: I would consider it almost infinite. I am an absolutely irreligious person. I am an atheist, actually. So I don't believe in [ideas like] if you save one soul or three souls, you save the world.... But so many of these young people have had their lives changed [by Birthright], and they say it openly and happily and proudly. I guess I buy those statements.... [And] it's only 10 days. Think about your life: How many 10 [day periods] do you even remember in your life? I think these 10 days have had a remarkable impact on many, many of these kids. In that sense, it justifies the investment.

Knowledge@Wharton: As you were speaking, I could almost see in microcosm the program that you described as being a part of the solution to the issue we began with, which is how does one market Israel and improve the Israeli brand? Are you aware of other such programs that have had a positive effect on Israel's reputation?

Steinhardt: The Diaspora community has at various times organized itself to try to facilitate the success of Israeli commercial brands. And to my knowledge, none of this has been very meaningful — getting together and buying Israeli food products and other things. I don't know of anything that's meant very much. I have some strong views, and some of them are a little bit enigmatic. They're not exactly a direct response to your question, but you'll see what I mean.

From the time of its inception, Israel was viewed as a place without natural resources. It was surrounded by countries with oil and other things. And it had nothing. It was a largely desert country that had but one asset, and that asset was the Jewish brain thus all that talk in the early days of its statehood about how it turned its land green when the land around it was mostly brown; how it had used its ingenuity and its technology in agriculture to achieve miraculous improvements in agricultural productivity, etc. And it was true. Indeed, some of that sort of stuff has gone into international markets.... It really has wonderful world recognition as an expert in using scarce water resources very effectively through fertilization and other things, and it has become a world leader in that. But my point is that it was the brain, the Israeli brain, the Jewish brain that was greatly emphasized. And in the first years of its existence, Israel built a number of universities mostly from immigrant European intellectuals who were first-rate by any standard.

But now it's 60-plus years later and the Israeli education system has fallen apart — shockingly so, where both the higher education system and the secondary education system are ranked well toward the bottom of the OECD [Organization for Economic Co-operation and Development] measurements.... It's almost shocking that Israel, which is the product of the great Jewish brain and a great emphasis on education, has fallen to such a low level. There have been, as you may or may not know, all sorts of education commissions and conclusions and recommendations within Israel as to how to change things, and the results to date have been zero.

Knowledge@Wharton: Why did that happen? What do you think went wrong?

Steinhardt: It's a good question. I think what went wrong, which goes wrong perhaps in a number of Western countries is, number one, the country allocates insufficient resources to its world of education. The teachers in Israel are paid really poorly. Now you might say they are paid really poorly in a lot of places, but in Israel they really are, relative to other countries, paid appallingly poorly. In the higher education system, a good 25% of Israel's senior professors have left Israel to teach at first-class universities in other countries, mostly in the United States, seemingly on a permanent basis. When you talk about brain drain, there ain't no brain drain as there has been in Israel. So, a vast number of people have left Israel for considerably higher salaries outside of Israel in higher education.

And in secondary education, the compensation is appallingly poor — an objective statement by almost any measure. You might then ask the question: Well, what's going on? If that's happened, why does Israel continue to have this extraordinary degree of innovation? Why does Israel have the second-largest — or largest — number of NASDAQ listings of any foreign country? You hear all these things that don't seem to make sense in light of the fact that Israel's education system is so bad. What's the answer? I'm not sure.

There are two possible answers. One, the economist's answer, is that there's a lag. A lousy education system is going to catch up with them and they're going to start falling apart in terms of innovation. Another, different, answer is that so much of this extraordinary innovation which has created these extraordinary companies — which have done so well — doesn't come so much from their education system but comes from their military. And their military continues to be truly first rate. Another possible answer is they have had this extraordinary injection of people beginning in the 1990s where almost 20% of their population was in one fell swoop added from Russia. That was a highly educated population and they added a lot to their innovative potential.

Knowledge@Wharton: Could it also be that the Israeli brain is more resilient than people sometimes give it credit for?

Steinhardt: That's another interesting question. What is it about that environment that provokes innovation, that provokes competition? It is, I assure you, the toughest, most competitive environment in the world. And maybe education or no education, these people work in an environment that is so challenging that somehow only the fittest survive. And when they do survive, they become extraordinarily able. It seems that there's something to that, but I'm not exactly sure how you articulate it.

Knowledge@Wharton: Necessity being the mother of invention might be one way.

Steinhardt: That's one way to say it. Exactly.

Knowledge@Wharton: Despite all the things you just described, there seem to be so many obstacles that Israel faces in improving its public image. How can these be overcome?

Steinhardt: Well, there's been a great deal of focus on that question. The Hebrew word used to describe what you're talking about is hasbara. Do you know that word?

Knowledge@Wharton: No. Could you please explain what it means?

Steinhardt: Hasbara means explanation — means to help in articulating who one is, who we are, who we are supposed to be. I'm not doing such a good job of it, but I think you got the sense that Israel's hasbara is not so good. Israel's effort at explaining itself is a failure. And this has been a self-criticism of Israel for a long time. It's as though if Israel's hasbara was better, then its public image would, therefore, be better.

Knowledge@Wharton: How can Israel improve its hasbara?

Steinhardt: I have a different view. My view is that hasbara invariably reflects reality. And you can't get away from it entirely. If you are there in Israel, you can understand it in more sympathetic detail perhaps. But how can you get away from the fact that you're an occupying power? Those are harsh words and it's not nearly that way, but in the unsympathetic world at large, in the Islamic world at large, they're not going to say anything nicer than that. And even when Israel has done things that were profoundly ameliorating, it's gotten no credit. We left Gaza voluntarily. We left Lebanon voluntarily. Nobody has been giving a party for Israel saying, "Israel, thank you very much. You left Lebanon. You left Gaza." Nothing. Nothing. So it's not a world that celebrates Israel under any circumstance and I'm not sure Israel has the ability through its hasbara or any other way to change very much of that. And that goes back to another issue, which we haven't directly discussed but you can't in any discussion of Israel totally ignore, and that is anti-Semitism. That's somewhat enigmatic to me. But one can't but acknowledge it. One can't but acknowledge that throughout the Islamic world, the textbooks are filled with anti-Semitic trash, anti-Israeli trash for kids. Why this is allowed I really don't know.

Knowledge@Wharton: One variation of this — is there anything you think Israel could do to market itself to non-Jewish populations? I thought in view of your atheism you might have some unique insights on that.

Steinhardt: Well, Israel is remarkably popular with certain Christians, particularly fundamentalist Christians, who are deep believers in the literal Bible. And Israel gets a large number of its tourists in the world from these sorts of Christians. I go to Israel often. The second-to-the-last time I was there was in the fall and it was a day called Jerusalem Day. There's a parade and the parade consists

almost entirely of Christians marching in Jerusalem Day. These people are all Christians who believe and love Israel primarily for its religious context.

Now I'm not so much of a theologian as to be able to explain what these Christians believe. They believe, I think, that something related to the next coming of Christ is to happen. You'd have to find somebody more knowledgeable than I, but Israel is popular with meaningful numbers of Christians, and I don't know what else it can do. It is a totally — it is an open democracy. It has the most combative, argumentative, democratic newspapers and media. It is a democracy like almost no democracy on this earth. And in that sense, one should admire it. It really is a good place to be. It's a place that true democrats have to admire — too democratic in a certain sense; it has too many parties. They can't get anything done.

It gives the religious — who, in my view take advantage of certain things — too much leeway. Ultra religious young people in Israel don't have to serve in the Army. They don't have to do all sorts of things that other citizens do as responsible Israelis, but it's because it's a very, very respectful democracy. Now is it so simple? No. Are the Arab citizens of Israel given the right to vote, etc., etc.? Absolutely. But are they treated as second-class citizens in some ways? That's true because they have such security concerns. I could say things that might sound good about Israel and about what they might do to improve their image, but the real objective in improving Israel's hasbara, the real objective, is to come to something better than a cold peace with the neighbors that it's made peace with — Jordan and Egypt — and to come to a real agreement with its immediate neighbors. [Doing this] would improve its image like nothing else - if Israel, for instance, could make a peace agreement with some of the distant Arab countries, if Israel could make a peace agreement with Saudi Arabia and if, in so doing, Israel could make meaningful concessions on the West Bank and places like that — this would enormously improve its image. But they're not going to do those things for image reasons alone.

Knowledge@Wharton: One final question. If we had in this chair Mr. Benjamin Netanyahu asking you for one piece of advice that you could give him to improve Israel's marketing abilities or Israel's hasbara, what advice would you offer?

Steinhardt: The advice I think I would offer Bebe at the moment — this is a very momentary statement, and I say momentary because of the immediate focus on Obama's recent statements — is that Israel and Netanyahu have been put on the defensive by Obama. Netanyahu, in his recent remarks, has responded to Obama by saying things like, "We're prepared to have a de-militarized Palestinian state" and things like that, which are unrealistic. My advice would be to do less on the front of making world headlines and responding to Obama because I think Obama will go his own way and he'll have plenty of other problems to deal with besides Israel.

I don't think Israel has very much to offer unless some of the Arab states — the other Arab states — become forthcoming. And I don't think they're going to become so forthcoming. But what I would do — and I think, ultimately, this is the thing that has to be done for Israel to become a great nation — I would devote enormous effort to making Israel what it once was in terms of being a light unto the nation. And in order to do that, what Netanyahu has to do is dramatically improve Israel's education system to the point where, again, it is right at the top of the world. It's not there now, but it can be.

But it's going to take an enormous change and a change which asks very fundamental questions such as, is it necessary for there to be a different system between the religious and the secular so they're segregated from each other? Is it necessary for the Arabs to go to different schools than the Jews? Is it necessary for college tuition to be \$2,000 or \$3,000 and, therefore, to put so many strains on so many places, so that the government becomes the overwhelming factor? If he's such a free-market person, I think he's got to face the fact that tuition should go up a lot, that the whole education system should change and should be measured so that Israel can be right at the top of the world's quality of education, where it was at the beginning of its statehood and should be again. And if it does that, it will — maybe not in a year or two, but ultimately regain a great deal in terms of its image. \$\phi\$



Shai Agassi, Israel's Homegrown Electric Car Pioneer: On the Road to Oil Independence

If there's a poster child for Israel's

entrepreneurial spirit, start-up Better Place is one strong candidate. Since launching the company in 2007, Shai Agassi — a 41-year-old Israeli entrepreneur and former executive of software giant SAP - has been shaking up the auto industry with his vision for mass adoption of zero-emission vehicles powered by electricity from renewable sources. Starting off with \$200 million of seed money, Better Place has since been setting up networks of service stations for electric cars, helping to wean drivers from their environmentally unfriendly gas guzzlers. John Paul MacDuffie, a professor of management at Wharton and co-director of the International Motor Vehicle Program, joined Knowledge@Wharton to interview Agassi from the company's headquarters in California about what it takes to develop an oilindependent future.

An edited transcript of the conversation appears below.

Knowledge@Wharton: You've often said that your inspiration for launching Better Place came to you at the World Economic Forum in Davos during discussion about ways to reduce the world's dependence on oil. But the story of how Israel's president, Shimon Peres, helped you turn that idea into a business is not as well known. Could you tell us about that?

Shai Agassi: I was [at] the Young Global Leaders Forum. I was challenged to think of a problem and then try and solve it. I started with thinking of how ... you run a country without oil. I then prepared a white paper and presented it to a number of governments, [and lastly] I presented it to Shimon Peres. Peres was the only leader who jumped

[at] the challenge in the sense of saying, "If it's something that you're serious about, let's go figure out a way to do it." He dragged me by the hand to every government office in Israel and a number of large industrial companies.

At the outcome of this journey that he led me

"I started with thinking of how you run a country without oil.... Peres was the only leader who jumped [at] the challenge."

—Shai Agassi, Better Place

through, we [set several] conditions, which were: If you find the money — \$200 million — and if you find a car company that would agree to build a mass production line of electric vehicles according to the model that we described — the switchable battery car — then Israel would be the experimental site to deploy and run the model. And he, true to form, helped me find Renault and convince [chairman and CEO] Carlos Ghosn in a meeting that it was the right thing to do, and then worked diligently in Israel to get it done. I offered to do it as a government agency and he challenged me to quit my job and do it as a company, which is what Better Place ended up becoming.

Knowledge@Wharton: How difficult was it to get the support of all the other constituents in government and industry, including the other auto companies? What kind of issues came up that you had to address?

Agassi: It wasn't easy. [People] had a hard time accepting it because there was a risk of betting on something that would not end up being successful. And there was almost no incentive for politicians to make decisions that are big and robust and breakthrough and disruptive. Most of their decisions are continuous developments of things that were agreed to by previous generations. There's always somebody else to blame.

We were lucky enough to have at the time Prime Minister [Ehud] Olmert, who basically said, "If you find the money, I'll fight Israel." What most people don't realize is that he has probably one of the most key individuals who is directly responsible to him — in this case the director general of the prime minister's office — to work through the entire bureaucracy of the government. All branches of government touch on our project and he needed that one person to unify the entire government.

Knowledge@Wharton: You have been speaking to other governments as well about reducing oil dependence. What is your pitch to them and how does your experience with other countries compare with your experience in Israel?

Agassi: You have to remember that nobody had done it [before] so it was really hard to convince somebody to be the first one. It's a lot easier to say, "We'll take the Israeli model and repeat it," than it is to be Israel in this case. And in most cases when I talk to governments, the common answer I got was that it's very good that the young generation is thinking about these big problems. And that was it. Nobody was willing to be crazy enough to follow through this model with us regardless of what we asked. And most of the time, we didn't ask for any money. We didn't ask for any budget. We basically said, "Just work with us and we'll get it done." But it was the fear of being caught or being observed as crazy by the media, which put politicians in the position that they wouldn't move.

Knowledge@Wharton: You were quoted recently — I think it was at a *Wired* magazine forum — saying that China is going to be a very important market for electric vehicles. Can you tell us a little bit about what you have been doing in China to make your case for your network [of electric-car recharging stations]?

Agassi: China is now the largest car country in the world. It's the largest producer of cars as well as the largest consumer of cars. It [grew] by almost 20% in the last year. The Chinese have no incentive to protect their existing car industry because they

were always looking to leapfrog the global car industry. And they've learned that it's impossible for them to do it with the internal combustion engine because they won't get to the level of quality that the Germans or Americans have gotten to after a hundred years. But suddenly in this new world of electric vehicles, they have the ability to not only leapfrog, but also lead forever in this market. Now, from a historic perspective, you have to remember that the U.S. has built its entire middle class on the car industry. Not only did people become middle class by buying [cars], but also a lot of the people became middle class by working in the car industry or its derivatives.

China is observing that same model to create its own middle class in a country that will most likely end up with the same kind of transportation layer of the West That means China will need to add somewhere around 400 million to 500 million cars in the next decade or two. And so you start to understand that there is a huge industrial effort [which will mean] that China can take over the backbone of the world's manufacturing. And by doing so, [China will] actually pick the market. If they go electric, everybody has to go electric.

Knowledge@Wharton: Another interesting case is India. India already has an electric car, the Reva. And [in July], another new car company called Bavina said that it's going to make electric cars in southern India. Since India imports 40% of its oil, it would seem to be a strong candidate to join your network. What efforts have you made there?

Agassi: India is interesting in the sense that it's not a question of the electric car. It's a question of the electric infrastructure for the car. In India, decisions for infrastructure are taken in a very different way than the Chinese model, which is basically centralized, top-down and very rapid execution from the moment a decision has been taken. When we look at India, we see great opportunity, but we're not sure [about the] speed of execution, whereas the Chinese are already in execution mode, not analysis mode.

Knowledge@Wharton: Would you care to comment on Japan and your efforts there?

Agassi: You're seeing sort of three couples around the world — China and Japan; the U.S. and the rest of the Americas — Canada and South America; and France and Germany. On each of the continents, you see one party moving really fast — [for example] China in the case of Asia — and one party reluctantly following its OEMs. In the case of Japan,

it was [stuck] behind the Prius [hybrid] model that Toyota has led. It's hard to defend the hybrid and we're now seeing Japan racing to catch up with electric vehicles, [while] China is moving on. And you're seeing the same thing in America.

But the starkest example is what's happening in Europe, where France led the conversion to electric due to the development of nuclear power in the past and Renault's position on electric. Germany was held behind by the OEMs, [and] mostly by Daimler and VW. Now that Daimler has bought into [California-based electric car maker] Tesla, and VW announced a partnership with China's BYD, you're starting to see the German government moving to catch up [with] the French regulation and position on electric vehicles.

Knowledge@Wharton: You were able to convince Carlos Ghosn that Renault and Nissan should join in the endeavor. How did that come about and how have the other car companies reacted?

Agassi: President Peres and I met with Ghosn in Davos in 2007. I don't think we convinced Ghosn. He already had the vision that the future of Renault-Nissan is electric. A lot of people tell the story as if I convinced him. Ghosn was more convinced than I was that this was the future, so he deserves the credit. He was an exception in [believing] that hybrids just don't make sense long term — its dual-drive train, its cost structure is counter-intuitive to everything that was done in the industry. So he took it to the extreme and said, "If we go more electric, let's go all electric."

The problem was that a lot of other CEOs were trying to defend their legacy instead of building for the future. And they did not understand how fast this shift would happen. But we're explaining it to them The main problem we had was trying to explain to some of the car CEOs, the car industry leaders, that an opportunity is lurking in 2011, 2012 as the "house was burning" and they didn't see how they were [even] going to get through the next quarter or the one after. It was not conducive to getting business done. Now that hopefully a lot of them are getting out of this situation ... it's easier to convince them that they've got to build for something in the future.

John Paul MacDuffie: To pick up on that, I am curious to hear your story for the Americas in terms of who is fast and who is slow, just to complete the world survey.

Agassi: One of the things that happened in America was that while we were changing the guard in the White House, Congress and the Senate were relentless in their push for the right incentive plan. So what you're seeing is that in the U.S., we put a lot of money both into the manufacturing and the consumption sides of the equation. We put [Department of Energy] money to [facilitate the] change toward electrification with \$25 billion of the budget, about \$7,500 toward every electric vehicle at the federal level. Some states are doing more. We're seeing a lot of programs in the current proposed energy bill at the House and the Senate, including financing for mass production, buying batteries [and so on] So there's a whole collection of bills that have been put through the House and the Senate which are coming into fruition and creating a fantastic [opportunity] for electrification.

.... I'm starting to see it from the manufacturers in Canada, and in particular in Ontario, where Premier [Dalton] McGuinty is leading this effort. [Similarly] in Brazil and some of the other South American countries, their understanding is that if they don't catch up with electrification, they will be left with the old industry, while the U.S. uses its money — hundreds of billions of dollars — to shift and rebuild the car industry before it's too late.

MacDuffie: Of course, there are several new entrants in the electric car space in the U.S., like Tesla and Bright Automotive. Have you been in contact with them? Which do you think have promising manufacturing and business models that might coordinate well with your thoughts and your network?

Agassi: It's important to understand that we're solving a very different problem than these guys, as much as I have a ton of admiration for [Tesla chairman and CEO Elon Musk] and the role that the company has played in galvanizing the public's perception that a great electric car can be produced. And [Tesla's] Roadster has been a fantastic demonstration of what technology means in the world of electric cars.

We are trying to solve a different problem, which is: How do you run an entire country without gasoline? To do that, you really need to get a plan that scales at very high volume and low cost. And so while most of these guys have targeted high-end, \$80,000 to \$120,000 cars, we're targeting cars that are below \$20,000. We're targeting the car that will be in that \$10,000 to \$15,000 range, but still give you

everything you would get from a middle of the road Chevy Malibu, instead of trying to go to the highest high-end car possible.

If you look at volume, at producers that can produce at the very least ... 100,000 of these kinds of cars per plant, there are very few players like that in the U.S. All three of them [Tesla, Bright, and Fisker] are well known as U.S. domestic makers....

Now the reason I'm saying 100,000 a plant at the very least is that we need something that is replicable, which can then go from 100,000 to a million to 10 million over a period of about 18 months to 36 months, because we have a very short period of time to solve this problem. If you don't get very quickly to a million and then to 10 million, we will not be able to solve the problem of how to live without oil.

MacDuffie: That was one of the things about scaling that I wanted to ask you, so thank you. It seems that one of the ideas that has captured the public imagination most is the battery-swapping stations. Do you think that drivers will be comfortable with leasing their batteries versus owning them? In the early period of the hybrids, there was worry about whether these batteries will have longevity and so maybe leasing looked like a nice way to deal with that concern. But it seems like those concerns are not as strong today. Do you have any sense yet of what the consumer reaction to that idea will be?

Agassi: That was one of the key misunderstandings about our model. We do not lease the battery. We as the operator, Better Place, remain forever the owner of the battery. The consumer does not lease the battery. What the consumer buys is kiloliters. We don't sell kilowatt hours and we don't lease batteries. We're not a financing organization. We're an organization that provides a service, which is unlimited driving at a price on a per mile basis. And we buy kilowatt hours and buy batteries to provide that kind of service through infrastructure, which we put around an entire region. From all the surveys that we've done with consumers who have seen our switch stations, more than 80% said they would rather own a car without owning the battery or they don't really care about who owns the battery.

MacDuffie: From the perspective of the different vehicles from different manufacturers that would potentially use one of these swapping stations, what's your sense of the likelihood of the OEMs agreeing to standardization [so that] there's one battery type? If a charging station had to stock multiple types of

batteries for different manufacturers, the logistics of managing those inventories gets more complicated to avoid running out [of the batteries] or having surpluses at a particular location.

Agassi: For one, we do not assume standardization. We assume that there will be multiple types and sizes of batteries. And we believe that the early movers will most likely decide to go with batteries that are unique to them. As a result, when we start in a region, we will need to decide which cars we service, and continue to service those cars for longevity. The design of the switch station has been one [that deals] with multiple car types and multiple battery types.

At the same time, you have to remember that once the infrastructure is in place, car makers have an incentive to use the batteries that were used by somebody else [given that the volume is already high] in that region. Otherwise they're the ones who are going to need to take care of stocking the extra batteries if volume [is low]. It's the same model that you want with retailers. If you're starting your first shops, then you need to court the original makers to give you some goods to sell; otherwise, the store is empty. But once your store is serving people, it's your shelf space that becomes more valuable than the actual goods from the makers.

MacDuffie: So it's really a pull over time toward standardization when the scale is there and the customers are there?

Agassi: Let me put it this way and you'll get it very easily. We see that model today with gasoline. In the early days of gasoline, if you didn't have oil, you couldn't open up a gas station. The minute you got oil, you went out and you installed gas stations. And then you sold the oil at whatever refining level you had across all these gas stations. Once the gas stations are in the right locations and people like them ... they use these stations. If somebody says, "I have a new fuel" — let's say a zero-carbon, very cheap, no-emission, no-pollution fuel — they're more at the mercy of the gas stations than the other way around. They need the gas stations to stock [the new fuel] before people buy the cars that use that fuel.

MacDuffie: I like that analogy. So let me ask a question that's more about battery technology. Do you think it will be stable enough for whatever kind of model — whether it's for recharging or battery swapping — in the infrastructure you envision? What's the risk of it becoming obsolete by a big change in battery technology or some other change that would make the infrastructure problematic?

Agassi: One of the things I believe is that huge breakthroughs in science don't happen as miracles. What we'll see in mass production in five to 10 years' time has to be in the lab right now

[In] very few cases can we get from 200 kilowatt hours per kilogram to 300 kilowatt hours per kilogram. That's a 150% to 200% improvement over what we have today, which means we probably are going to see [a similar improvement] in about five to seven years' time if that's what is in the lab. That means we're going to see a battery that will do roughly 250 miles to 300 miles on good days at the same size and for the same cost as what we have today.

The interesting element is if you get to that kind of battery, would you put that battery in your car? [What if] you — seven years from now — have a swapping infrastructure across the region [and can] only buy half that battery at half the price and have a price advantage that is more distinguished and gives you a better business model? The answer is most people would rather pay half as much per mile and have a 120-mile battery than those who would buy a 250-mile battery and pay twice as much per mile driven.

MacDuffie: So the emergence of that kind of greater range doesn't necessarily invalidate the plan for the infrastructure [and] current battery technology?

Agassi: Remember the early cell phones — the bricks — that had a big battery attached? When that battery technology improved, we didn't keep the same talking time and the big brick. We reduced the size of the phone and put a half a battery in there. Okay? And we kept on doing the same thing again, again and again. It's not that we couldn't keep [the old phone]. Imagine today if we took a brick like the original Motorola phone and put a battery inside. You'd be able to talk forever. But who would buy that phone?

MacDuffie: Let me ask what is a kind of geography question. So far, you've had a lot of enthusiasm from Israel, but also from other places that are relatively concentrated geographies, like Denmark and Hawaii. Is there any sense that that's the most logical starting place for this model in terms of getting critical mass quickly and [needing] fewer long trips in a proximate geography, hence less need for spacing the recharger or battery-swapping stations to support long trips?

Agassi: Are you saying that it's unfair that we picked the best places to start?

MacDuffie: No, I'm just wondering if you see a natural fit for ... relatively smaller geographies as a place to prove this, or if you plan to prove it in large geographies at the same time?

Agassi: I just want to remind you that our third location is Australia. So we went big as well. The rationale in picking Israel and Denmark is obvious. It's a single-cell model, if you want to think of a cell-phone metaphor. Israel is almost like a one-anda-half cell, if you think of a cell as a radius of about 100 miles from the middle point of the country. And Denmark is not different than that. With the same kind of 100-mile radius from Copenhagen, you reach most of the country. You need half a cell to cover the rest of the country.

The issue is that we can only see multi-cell organisms. If you think of the West coast of the United States, it's basically four cells and a long freeway connecting them. Think of L.A./San Diego as one-and-a-half cells. San Francisco is a full cell. And then Portland is a half cell and Seattle is a one cell. What you see is that you've got four cells and a 1,500-mile highway connecting them. That's one of the models we'll be looking at proving. So we're always in the position that once you've done it in one country, it's very easy to replicate in other countries regardless of size.

MacDuffie: Could you say a bit more about Australia because it is a [location] with vast expanses of very low density. How are you thinking of tackling a country like that?

Agassi: We don't need to tackle all of Australia. That's the beauty of it.... We don't need to do 100% of the cars on day one. Australia has three very big cells: Melbourne, Sydney and Brisbane. All you need to do is cover each one of those cells that are very dense urban centers. If you think about them, there are extremely profitable cell-phone models in each one of those.

So the same thing [applies] to us. We have very dense coverage in those [cities] and then one freeway that connects them that runs, I think, about 1,000 miles. And that highway gets a switch station every 25 miles, which effectively gives you comfort that you won't get stuck when driving from any of these cells to any of the other cells.

You don't drive 1,000 miles every day. But when you do, you're within coverage. And so you really get an environment where you've got three major, highly profitable centers and a very good connection across all of them.

MacDuffie: You've used the cell phone — product, business model, industry, evolution — [as an] example several times. Did that enter into your thinking early on as sort of a stimulus to your vision?

Agassi: It did. It's actually more exiting minds right now than entering. One of the mistakes that we made is we thought of ourselves too much as being a cell-phone company. We're more like an energy company or a modern oil company in the sense that we sell the same product, we sell miles to drivers.... We're more [like] a company [in] infrastructure, which buys its assets and through that, sells a service — effectively a comfort of driving miles only with sustainable ways both for the economy and [the environment].

MacDuffie: One more general question about the different parts that Better Place is involved with. As I understand it, a lot of the automotive value chain would change under your vision, including design, production, distribution and the way that energy is consumed. How far along are you in figuring out the incentives for each part of the chain to [encourage them to] participate in the model?

Agassi: For car makers, it's pretty obvious. They have a ton of capacity. They're looking at a nonsustainable business model as it is today. We're proposing to them a much better business model — a highly profitable car that drives for a long period of time with very low warranty costs, and some incentives to work with us and provide us with cars.

We're providing an incentive for the gas-station owners to ... leverage their space by [installing] switch stations inside. We're providing great incentives for the utilities in the sense that we're buying excess capacity [from them], in particular in renewable excess capacity. We're selling them standby power whenever they need it so they've got a great customer who is intermittent and is willing to share its storage, which is a very big pain for them right now. For governments, we provide a way to [rectify] trade balance issues in terms of not importing any more oil.

....Finally, the consumer gets a cheaper car with more convenience, with the ability to drive indefinitely, without noise, without pollution, without killing their future and their kids' future. Overall it's one of the biggest value generators, mostly because we're taking out the implicit and the explicit cost of oil.

Knowledge@Wharton: What message would you like to give high school students about the cars and car industry of the future? And how can they get involved with Better Place?

Agassi: First thing they have to remember is that their first car will be electric. The young generation today understands that ... we don't have enough oil in the ground and we don't have enough of an atmosphere to sustain them until they die if we don't switch early. And the earlier we switch ... the easier it is going to be to recover from what we — our generation and the generations of the past — have done to this planet, and the abuse that we've [inflicted on] natural resources And so the first thing to remember is your future is electric.

The second thing is that this is one of the most exciting times in this industry. We will have a billion electric cars on the road sometime around 2025 because we will have a billion people [driving] and there's no way they can be [driving] gasoline cars. Between now and 2025, a billion new cars need to be added and there will not be any industry that will be more exciting than this one. If you think of an industry that will make a billion of something, [with an average price of] \$20,000, you're looking at a \$20 trillion industry rising up from nothing today within the span of 10 to 15 years.

Those are the kinds of [things] that made Silicon Valley a great place to work and made biotechnology a great place to work and made the Internet such a fun place to be part of in 1995. If they're looking for something that will be the next big industry, there's no doubt in my mind that the electric car is the next big thing and that \$20 trillion is just the core of this industry. There'll be batteries and services, innovation and new product technology. Everything will be reinvented and they've got to think of a way to get into this industry while they can.

Knowledge@Wharton: Is there a way students can get involved with Better Place?

Agassi: We have probably about 15,000 to 20,000 unsolicited resumes. There's always a way to get our attention if they want to and they work hard. I'm sure that down the road when they're done at Wharton, we'll look at their resumes. \$\phi\$



Globalization of Technology Ventures: Lessons from Israel

Technology is universal, and technology

markets are relatively culture-insensitive. Still, the fact remains that surprisingly few high-tech startups that were conceived outside the U.S. or the world's primary technology markets have evolved into global companies. Why is that so? In this opinion piece, Gideon Tolkowsky, principal of Israel-based BME Capital Management, who has been involved in venture capital in the U.S. and Israel for more than 25 years, offers some lessons from Israeli high-tech startups.

Globalization has become a cliché, and in no other field of business has it become more worn out than in technology. After all, technology is universal and its markets are relatively culture-insensitive. Technology businesses should therefore be the easiest to globalize, and high-tech startups should be natural candidates for global expansion. Still, the fact remains that surprisingly few high-tech startups that were conceived outside the U.S. or, more broadly, outside the world's primary technology markets, have evolved into global companies, even of medium size. Why is this so?

Several yardsticks can be used to measure the so-called global presence of a technology company. Each of these is likely to be debatable to some extent. One simple measure might be the number of non-U.S. companies traded on the NASDAQ exchange. Presumably, NASDAQ trading reflects a non-U.S. technology company's ability to break through regional barriers and gain international recognition.

Consider these numbers: As of August 5, seven companies that are registered in Australia are traded on NASDAQ; six that are registered in Japan, five in the UK, four in Singapore, two in France,

three in Germany, two in South Korea, three in India, three in Argentina, one in Brazil, one in Spain and one in Sweden. In contrast, one figure stands out: 63 companies registered in Israel are traded on NASDAQ.

How can a country with a population of a little more than seven million — approximately the population of New Jersey, located 9,000 km from the U.S. — breed dozens of technology companies that have succeeded in going international? An even more interesting issue is whether the lessons learned in Israel pertaining to the globalization of technology ventures can apply to other economies. And, if so, is their applicability limited to small economies only or are the lessons size-independent?

One figure stands out: 63 companies registered in Israel are traded on NASDAQ.

One might argue that the country's small size forces Israeli companies to go international quickly, and that the lessons learned there are limited to small economies. Yet, one can find far larger economies struggling with similar challenges. Take, for instance, India's thriving technology industry that is making huge and not always successful efforts to evolve beyond technology services (e.g., software subcontracting) to product-based models. Brazil may be a second example. Apparently, a large domestic market does not necessarily rid local technology companies of the hurdles to globalization that plague small economies. Lessons learned from the latter may therefore be relevant to the former too.

Globalize or Go Bust

The question of size-independence warrants particular attention. Technology ventures, primarily those that are product-based, rather than service-based, cannot remain local. They must either globalize fast or they fade away. A high-tech startup must be able to effectively compete with the market leaders in its field on their own turf, i.e., in major world markets. Otherwise, the large players will beat the startup across the board, including on *its own* turf, its native country. While it is possible to successfully market, say, a Turkish brand of beer in Turkey, it is far more difficult to succeed in local marketing of a Turkish-made computer modem. The product either needs to gain global market acceptance or it will gain none at all, not even in Turkey.

This is the meaning of the worn-out statement that the business of technology is global. A technology company either competes globally or does not compete at all. This applies to technology startups that are born in Israel just as much as it does to those born in substantially larger economies.

This realization implies that product-based technology ventures face the huge challenge of going international early in their life cycle, normally when their capital base is slim and their management team is spread thin. Going international in this case means setting foot in the world's primary technology markets, primary in terms of both size and sophistication. For most technology products, primary market means, first and foremost, the U.S. Yet, this is not always the case. For instance, in the business of selling components on an OEM basis to manufacturers of consumer electronics, Japan and South Korea are just as primary as the U.S., if not more so.

The point here is that simply setting foot in a neighboring country will not do the trick. It will not fit the description of "going international." True globalization for a technology firm implies competing with its fiercest rivals in primary markets. This is a gargantuan challenge. It means the company must enter the lion's den and prevail, or be gobbled by the lion, whether inside or outside its den.

This is where the lessons learned by Israel's high-tech startups should be relevant to other entrepreneurial high-tech ventures in other non-primary economies. The lessons, in this respect, are independent of the size of the company, or of other national features of the country in which the high-tech startup originates.

It Begins with a Plan

A business plan for a high-tech startup must adopt global horizons from its very first page. No matter where the venture is located, the underlying operating assumption must be that the young company will face the challenge of competing in the most competitive markets from Day One. The theory by which being located in a protected market provides the startup with a shelter within which to bud is illusory. The reason is that if the budding company lacks the qualities necessary to compete with its best established rivals right from the day it launches its first product, then its product launch is likely to fail. Technology markets are global. If you cannot beat the lions in their den, they will prevent you from standing on your feet even in your own den.

For this reason, the business plan of a high-tech startup that is located outside the world's primary markets should assume a global perspective from the very start. Chapters that deal with product specs, distribution channels, manufacturing, costing and pricing, competition, intellectual property strategy, regulatory strategy, financing and — most importantly — management; these business planning elements should all be geared toward penetrating the primary world markets quickly. The more product-oriented a company is, as opposed to service-oriented, the more apparent this requirement is.

The most a technology startup located in a secondary market can afford to do domestically is to alpha-test its product, as there is an advantage in alpha-testing close to the R&D team. However, from beta-testing onward, the advantages — in fact, the necessity — of being close to competitors in their own markets far outweigh the advantages of staying in a sheltered environment. In the business of technology products, operating in a protected, less-competitive market, may be a short-term relief but is a longer-term death sentence.

Indeed, most of the 63 NASDAQ-traded Israeli companies, as well as numerous other Israeli technology companies, generated their first sales outside Israel, more often than not in the U.S. Typically, it was only after they had acquired satisfied customers in primary markets that they began to sell in Israel. This was not because of market size. After all, as small as the Israeli market is, it still has buying power. But then, why would even a single Israeli hospital buy a diagnostic imaging software package from a local startup

before the hospital administrator can rationalize the purchase decision based on successful installations in the U.S., or in Germany? One may rest assured that GE Healthcare's or Siemens Medical's local sales force will see to it that the administrator will be unwilling to assume the risk of buying domestic without the product having strong references from primary markets. Apparently, the lion dominates all dens, domestic and others. That is why the beast must be confronted on its own turf.

Customers/Shareholders Synergy

For a growth-oriented business, distinct synergy exists between its client base and shareholder base. When the business has international ambitions, this synergy is particularly pronounced. Shareholders that can assist the company in crossing cultural borders — that can give it credibility in foreign markets, whose reputation is woven into the business fabric of the target market — are priceless. They bring clients just as much as they bring capital.

Similarly, having a respectable list of reference clients in an overseas market helps remove the natural hesitation of investors based there to bet their money on a small entity headquartered in a remote country. This is true for private financing, and is even truer when the company attempts to go public. For example, going public on an American exchange is exceedingly difficult when a company has no U.S. clients. Similarly, closing strategic deals with U.S. clients is smoother when the company is publicly traded in the U.S., due to increased transparency and reputational added value.

For these reasons, a high-tech startup that is based in a secondary market would do well to recruit primary market shareholders as early as possible in its life cycle. These could be professional institutional investors, such as venture funds, or value adding private investors, such as successful entrepreneurs. While the company may initially have to sell more of its equity to raise such capital, at the end of the day this approach will pay off. Growth is likely to be faster, capital will become more accessible, and successful emergence out of the startup phase is more likely to occur.

One story that comes to mind, which has its light side and which illustrates the customer/ shareholder synergy, is that of the wife of a U.S. venture capitalist who walked into the clinic of a Los Angeles dermatologist and discovered a miraculous machine for hair removal. To be sure, the next thing that happened was that her husband's

VC firm invested in the budding Israeli startup that had developed the machine. The rest is history — NASDAQ trading, global spread and so on.

Shadow Marketing

High-tech startups often turn to indirect distribution channels for market penetration. Companies that are located far from their main markets, physically and culturally, are all the more inclined to do so, and for good reasons. Yet there are risks involved. Indirect distribution channels tend to isolate the company from its market. An invisible wall is erected between the company and its clients, competitors and general winds of change in the market, which are so important for gaining insight into fast moving trends in technology markets. For a company based out of and away from the market it attempts to penetrate, this isolation becomes particularly burdensome.

One important lesson in this respect is that, as effective as a company's indirect distribution channels may be, it should never succumb to a 'shoot and forget' modus operandi. While the company deposits its products in the hands of an independent distributor, representative, system integrator or OEM, it should continue to orbit around the channel's marketing and sales force, day in and day out. Differently put, the company should engage in what might be referred to as "shadow marketing." This means that, to the extent possible, and even against its distribution channel's preference, the company would do well to stick to its indirect channel like a shadow. Company personnel should accompany the channel's representatives on sales calls, join the channel's in-house marketing meetings and closely interact with the channel's customer support team.

Occasionally, a high-tech startup yields to the temptation of putting its fate in the hands of a potent distribution channel, such as a leading OEM, in the hope that "things will be okay." Management convinces itself that "such a major market leader must know what it is doing and surely has what it takes to sell our product." While this wishful assumption may well be correct, it nevertheless leads to isolation from the market. Needless to say, this lesson, about the acute need for shadow marketing, is particularly valid for companies that are remote from their market, geographically and culturally.

Here, a case in point might be an Israeli startup that launched an organization-wide satellite communication system. This was clearly a "big player" line of business. The company just had to go the OEM

route for initial market penetration, and it did. But then, it made a point of being intimately involved in the end applications, from design to installation to service. It did not let its OEM shield it from end users. The company consequently succeeded in gaining invaluable direct market insight. Several years later, it acquired its OEM.

Mix R&D with Sales

It is a truism that in technology companies, sales people tend to treat R&D as a necessary evil ("Unfortunately, without them there is no product to sell"), while R&D tends to treat the sales team as ignorant simpletons ("What do they know about our product?"). Sales people are frustrated with R&D's commercially unjustifiable striving for product perfection, while R&D is constantly at loggerheads with sales peoples' promises to clients about product features that do not exist or delivery schedules that are unrealistic. An eternal, hardly bridgeable cultural abyss yawns between these two groups.

In high-tech startups that are located far from their primary markets, this gap widens ten-fold. Engineers by and large do not excel at communication, while sales people normally have little patience — including for collaboration hiccoughs that stem from distance and cultural differences. The physical and cultural barriers between the two groups become particularly wide and threatening to group coherence.

What should be done? The inevitable answer is that R&D and sales people should mix. Under normal circumstances, mingling between the two groups, particularly in a small company, is easy and natural. They share the same corridors and coffee machine. But when it comes to a company whose R&D and sales teams are separated by an ocean, or by something far wider and deeper than an ocean — such as a language barrier or a diametrically different cultural taste in sports — mingling becomes a true challenge.

For this reason, small technology companies that are spread across the world should pro-actively create mingling opportunities. They would do well to send an R&D person from Stockholm to spend a couple of weeks in the Palo Alto sales office, and to encourage a sales person from Tokyo to spend several days at the R&D facility in Bangalore, São Paulo or Jerusalem. It may add to costs, but at the end of the day it will save chasm-bridging money and will boost revenues.

Illustrating this approach was an Israeli startup that developed high-end memory devices based on novel solid state technology. The company made a point of sending its engineers to customer visits. The goal was not just to provide technical support, but also to expose the engineers to the challenges faced by the company's sales force in trying to convince a large manufacturer of defense electronic systems to bet its product's reliability on a novel technology originating from an obscure, tiny company located on the other side of the ocean. There was nothing like this experience to nurture engineering's respect for sales — and vice versa.

Management Structure

By far the most challenging task for a technology startup, while forming a bridgehead in a remote market, is management. How can the company build a management structure that will function and will deliver growth while retaining entrepreneurial spirit and making the best of it, rather than just paying the price of cultural diversity?

In a nutshell, the Israeli experience has been that various management structures have been tried by high-tech startups; all have had their failures and all have had their successes. Differently put, no textbook solution has emerged and company shareholders and boards of directors have been left with the challenge of tailoring ad-hoc managerial solutions. When the dust settles — and this is a subject that typically raises *much* dust in the air — the "right" management structure hinges on personalities. These, alas, rarely lend themselves to cataloguing and standard formulas.

Diverse formulas have been tried. These have included sending one of the local (Israeli) founders of the company to the target market (e.g., the U.S.) to set up a marketing and sales bridgehead; or recruiting a U.S. (or other primary market) professional manager to head the marketing and sales operation there, and having that person report to management in the company's homeland, or the other way around. Alternately, some companies have tried a hybrid solution — sending one of the company founders overseas and recruiting a local manager there, while having the latter report to the former or vice versa.

One successful example that comes to mind is an Israeli startup founded by an entrepreneur with outstanding leadership qualities and unparalleled technological talent in his field, yet with little business experience, let alone in an international

framework. The Israel-based VC who agreed to seed the company introduced the entrepreneur to an ex-Israeli person who had been living in the U.S. for many years and had an outstanding salesmanship record. The two teamed together, with the original entrepreneur running the company from Israel and the experienced salesman running its marketing and sales beach head in the U.S. It was a winning combination. Clearly, both persons' Israeli origin turned the geographical and professional-background gaps between them bridgeable, while making good use of the valuable skills both individuals brought to the table. The VC who initiated this marriage reaped a very good return on his investment.

Notably, though, while no recommended structure has emerged, one structure has had a distinctly lower rate of success than others: Recruiting an experienced, professional U.S. (or other primary market) CEO to manage the entire company, including the Israeli R&D operation, without placing one of the original Israeli founders shoulder-to-shoulder with the U.S. CEO, even if reporting to the CEO. In our desire to refrain here from elaborate sociological or psychological analysis, we will leave it at this, at the simple empirical result: This latter structure tends not to work. In fact, the graveyards of Israeli technology startups are filled with companies whose professional investors tried to impose such management structure on their investees.

One example of a disastrous management structure is that of a non-destructive electronics testing company founded and seed-financed in Israel, where the second round U.S. investors forced the CEO to recruit a U.S.-based CFO. They simply wanted to control cash management. However, they neglected to recognize that the one person a CEO needs closest to him or her is the CFO. The CFO is the CEO's most trusted and most intimate lieutenant. Placing the CFO thousands of kilometers away from the CEO is a sure recipe for failure, as sure as can be, which is indeed what happened.

International Corporate Culture

All the above lessons regarding international high-tech entrepreneurship may be summarized in a single bullet point, which is abstract yet profoundly relevant: It is vital to build an international culture within the company from Day One. This translates into many different action items, large and small. It includes recruiting people who speak various languages and, preferably, have spent time

overseas and developed cultural sensitivity. It also includes putting emphasis on in-company, "over the chasm" communication — by phone, email, video-conference and trips abroad — even to the extent of over-communication. It gets down to very simple things, such as always using English for inter-company communication and encouraging employees to use English in email correspondence even when the corresponding parties are both, say, Hebrew, or Chinese or Spanish speakers.

At the end of the day, perhaps contrary to intuition and certainly contrary to common practice, it is the successful formation of an international corporate culture that is the paramount pre-requisite for success for a high-tech startup. The company must think and act globally from Day One, and it can only do so if it actively nurtures an international corporate culture.

Corporate culture is like the scent that is in the carpet. You can vacuum the carpet day in and day out; you can send it to the cleaners again and again; the scent remains. Therefore, it had better be the right scent — the right corporate culture — from the beginning. Companies that cultivate a global culture, from the day their founders write the first page of their business plan and from the day they recruit their first employee, have the best chance of growing in today's global economy. \$\phi\$

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