Las Vegas and Houston: Global Command Centers in the Sun Belt

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Abstract

Apart from their notoriously hot summers, Las Vegas, Nevada and Houston, Texas appear to have little in common. Upon further scrutiny, however, the two cities have followed strikingly parallel trajectories. As a hub of commercial gaming today, Las Vegas faces challenges comparable to the obstacles Houston encountered in the 1970s and 1980s as a hub of oil and energy. The story of Houston since this downtime reflects a stunning transformation into a modern-day international city, and one that both parallels and portends a new Las Vegas. In this article, we argue that Houston provides a viable model for Las Vegas as a "global command center" of a major international industry – and that in many ways Las Vegas is already following this path.[1]

Introduction

Today, Las Vegas faces a seemingly endless pummeling of bad-news developments, and a local and national media all too eager to pounce upon them. First and perhaps most obviously, Sin City and its core gaming industry have found themselves firmly entrenched in the "Great Recession." In 2010, Las Vegas gaming revenues were at approximately 81% of their peak levels -- reached just three years earlier – and unemployment in the city hit highs unseen by any metropolis in the U.S., including Detroit[2]. Worse, international competitors have appeared at a stunning and lucrative rate, and gaming revenues in Macao and now Singapore dwarf those of the "gambling capital of the world." On a more local front, residents have started to abandon ship: Las Vegas' 9% annual population growth rates in the decade of the 1990s are a distant memory, and growth actually turned negative for the first time in 2008[3]. On the Las Vegas Strip, availability of capital and a "build it and they will come" development philosophy combined to create an overbuilt environment with too many rooms and too few customers (or perhaps more accurately, too few customer *dollars*). The city's largest companies found themselves in highly leveraged positions, and some have teetered on the edge of collapse.

Meanwhile, 1500 miles to the east, Houston enjoys media-darling status, as those who seek a good-news tale direct our attention to the rare city that has thrived during this seemingly interminable economic downturn. On the surface, Houston provides an interesting contrast to downtrodden Las Vegas. The city is creating jobs at historic levels, its downtown supports four major sports teams in brand-new arenas, and Houstonians seem to be adapting nicely to a globalizing economy.

Houston, however, has known hard times. Sure, the 1960s were the golden age of oil in the United States, and Houston was its rightful capital – based upon its status as the domestic giant of oil production. But then its fall began: American crude output began to decline in the 1970s, and continued to diminish into the 1980s. Eventually, the oil that remained extractable was not economical to access. Gradually but surely, the oil industry moved to international shores. Houston suffered mightily, as oil prices remained stagnant at $30 a barrel. Even more alarmingly for some, the local population started to dwindle -- for the first time in its history. Put simply, the outlook was bleak, and Houston's future

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seemed doomed to a path similar to Buffalo's or Cleveland's.

Then something fairly subtle but altogether remarkable took place: the city did not resign itself to a fate similar to its brother cities in the rust belt. Instead, Houston reinvented itself as the global command center for the international energy industry, and today it finds itself uniquely positioned to take advantage of a globalizing 21st century. How did Houston manage to change course, and during a period when it seemed that the entire town might fold 'em? Can Las Vegas follow this transformative path – indeed, *is* Las Vegas quietly following this very same path? The answers to these questions reveal much about the most macro kinds of rehabilitation and reinvention – two concepts with which Las Vegans are intimately familiar.

We argue that Houston provides a viable model for Las Vegas as a "global command center" of a major international industry – and that in many ways Las Vegas is already following this path.

Las Vegas, Part One: The Production and Deconstruction of an All-American City

The City of Sin is barely a hundred years old – at least officially. May 15th, 1905 is widely considered the birth date of what we now know as Las Vegas, but this birthday does not reflect the opening of the town's first casino resort, or even a single card room. Instead, on this date a unique partnership (consisting of William A. Clark, a U.S. Senator from Montana, and the Union Pacific Railroad) jointly auctioned off sites of land with the vision of creating a bustling railroad town. Early on, the city enjoyed distinct geographic advantages: it was situated at a convenient spot between Salt Lake City and Los Angeles, and it boasted the lone substantial water source on that section of the railroad's route. Despite these advantages, growth was far from explosive initially, as the population remained under 1,000 for the next five years. In fact, for the first half of the 20th century, Las Vegas' ambitions were buried by a neighbor to the north, as Reno served as the state's hub of economic activity[4].

The city's first "funding fathers" did not hail from Midwestern mafia organizations with intimate knowledge about casino management. Instead, financial support arrived in the form of the U.S. federal government. The government's role in the growth of early Las Vegas was crucial, boosted by federal construction projects in the 1930s to build Hoover Dam (and later by federal military projects). As one of the technological marvels of the world, the dam itself served as a major tourism draw that soon attracted over a quarter million visitors – 75 percent of whom paid a visit to nearby Las Vegas. The dam also offered a new source of inexpensive electricity and water, which made the area attractive as a site for new citizens and industries[56].

Then came Las Vegas' "Eureka" moment. The Nevada state legislature legalized gambling in 1931, allowing cities to issue gaming licenses and to collect taxes on gambling revenues. Later during the decade, the U.S. Government came through for the town once again, funding a New Deal project to pave and widen the Los Angeles Highway. This project brought the two brightly-lit cities closer in literal and figurative senses, as Bugsy Siegel and many others would famously seek to link "big entertainment" and "big gaming."[7]

In addition, the highway provided Las Vegas with a critical customer base for its emerging hospitality industry, and a 1940s gaming boom was largely fueled by gamblers careening down the I-15 corridor from California. These tourists came to experience Las Vegas' new "invention:" the casino resort.[8] The El Rancho opened its doors in April of 1941, and was soon followed by other resort properties like the Last Frontier. In December of 1946, the infamous Benjamin "Bugsy" Siegel opened the Flamingo in an effort to outdo the Beverly Hills Hotel -- and to attract the attention of Hollywood's elite, whom he hoped to attract as customers and performers. Soon, the likes of Ronald Reagan, Frank Sinatra, and Elvis Presley called Las Vegas showrooms home, adding new amenities to a town that used to be solely about gambling. In a span of a few years, Las Vegas had invented the modern casino resort, become a true tourist destination city in a dried-up patch of the Sun Belt, and surpassed Reno to become the gambling capital of the known universe.[9]

Soon, however, a series of challengers emerged to try to chisel away at Las Vegas' dominant market position. The first major competition came from New Jersey, when Atlantic City legalized the east coast's first casinos in 1976[10]. Despite the cries of many who predicted Sin City's demise (why would gamblers from the east, after all, travel to Las Vegas anymore?) the ultimate impact on Nevada gaming was negligible[11]. In fact, Atlantic City likely exposed many more people to the notion that gambling was socially acceptable entertainment. And any time a business can broaden one's market, this is, in strictly business terms, a good day.

The city should have learned its lesson, perhaps, but when the United States Supreme Court issued its landmark *California v. Cabazon Band of Mission Indians* decision in 1987[12], the cries came even louder, and the punditry once more predicted doom. After all, these critics again reasoned, why would gamblers come to Las Vegas when they now had a viable tribal gambling option nearby? Granted, we now have the benefit of hindsight, but if we track the trajectories of growth in tribal gaming, and then project them onto the revenues generated by Las Vegas during this same period, the two tales grew side by side, and not in small amounts. For the second time in its history, gaming's growth was good for Las Vegas, as the gaming product "mainstreamed," hence broadening its marketplace even further. As business research has consistently suggested, the simplest, best way to increase a product's popularity is to increase distribution outlets[13] – and now gaming had outlets all over the nation.

On the surface, Houston provides an interesting contrast to downtrodden Las Vegas.

Today, the city of Las Vegas faces what we might call its third major "competitor crisis." This latest one is familiar to observers of the U.S. economy, as it can be traced directly to the feet of a new China. As in the past, new casino operators provide a viable and even attractive gambling alternative to the city that invented the Big Gambling Box. This time, the competition is serious: Macao is on a pace to triple the revenues of the Las Vegas Strip this year, and Singapore's two (two!) casinos will beat it as well. To state the obvious, the competitive environment has changed profoundly for the Las Vegas-based casino industry. Las Vegas, it would seem, has finally been toppled by two competitor jurisdictions – and given China's explosive growth, neither promise to fatigue anytime soon.

Houston's Tale of Two Cities, Part One: Production Capital

In 1836, brothers Augustus Chapman Allen and John Kirby Allen placed an advertisement in the Telegraph and Texas Register for lots at a townsite that they promised would evolve into an "interior commercial emporium of Texas." They reasoned that the nearby Buffalo Bayou would allow vessels from New York and elsewhere to access the new town, and that it enjoyed geographic benefits (namely, a safe harbor from hurricanes) that neighboring Galveston did not. Disappointingly, early visitors discovered a bayou that was shallow and overrun with vegetation. In fact, much as early Las Vegas lost out to early Reno, Galveston was the clear early winner in this region, and it was Galveston's port that served as the direct connection between Texas and New York, New Orleans and Europe[14].

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Attempts to improve navigation in the Buffalo Bayou began in the latter portion of the 1800s, and ramped up after the end of the Civil War. First initiated by local businessmen, the task of constructing a major shipping channel was eventually taken over by a funding source quite familiar to Las Vegans: the United States Government. Thanks largely to this influx of capital, the Houston Ship Channel was completed in 1914, allowing Houston's deepwater port to evolve into what has on occasions been the United States' second largest[15].

Cue the Eureka moment. In 1901, the Spindletop oilfield was discovered, and oil companies sought locations for refineries. The Houston Ship Channel's distance from the gulf provided some protection from threatening storms, and soon its shores were lined with brilliant refineries. By 1929, forty oil companies maintained offices in the city of Houston. Some of these entities evolved into the major corporations that have become recognized the world over: Exxon, Texaco, and Gulf Oil Corporation among them[16].

The Second World War created demand for new products such as synthetic rubber, gasoline, and explosive materials. Houston's nearby coastline, with its deposits of sulfur, salt, and natural gas, delivered the elements for the petrochemicals required to satisfy these war effort needs. In this period, companies such as Dow, Monsanto, Du Pont, and Goodyear emerged to establish Houston as one of the two most significant petrochemical hubs in the United States. By the 1970s, Houston was widely regarded as a world energy capital -- but the nature of the business was quite different from what it is today. It stood as the center of production, but production was shifting. As the domestic flow of crude oil began to slow and in conjunction with the general economic pressures of the 1970s, Houston experienced crushing economic times[17].

Houston's Tale of Two Cities, Part Two: Intellectual Capital and a Global Command Center[18]

During these not-so-boom times, Houston's domestic oil reserves and revenues were not sufficient enough to survive. Critics feared that the city was tapped out – literally and figuratively – and that it faced a future that looked similar to so many other cities that had thrived in an industrial age, but then died when post-industrial forces took over. At this stage, however, Houston's companies made a series of smart (and what we would now call "sustainable") moves. Crucially, they began to search internationally for new business opportunities. During a time when oil averaged $30 a barrel for 15 years, Houston got more efficient, survived, and then found itself well positioned to grow once again when the market turned.

These tourists came to experience Las Vegas' new "invention:" the casino resort.

Today, Houston is back and healthier than ever. At its peak, Houston was creating 60,000-65,000 jobs per year – a rate that was surpassed this past year when it welcomed 67,000 new jobs to the area. As Patrick Jankowski, Vice President for Research at the Greater Houston Partnership, put it in an interview: "I always tell people don't write off Detroit just yet – they're not out of the game at all, they're stagnating at 12-13 million autos, but they can get more efficient during this lull and might be poised to rise again."

But how did Houston "rise again" when its main product, oil, made a major move overseas? To invoke an academic (but practical) phrase, this happened largely because of *intellectual capital*. The big energy companies understood that the knowledge on the all-important question of how to *find* energy was concentrated in one place on the planet: Houston. For years (up through the 1980s), the "hit rate" for oil was actually quite low: perhaps 10% of prospecting projects actually struck oil. Today, prospecting is a science – amazingly, 1 out of 2 explorations are successful (often the rate is higher). Here, knowledge, research, and science-based knowledge have transformed this industry.

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Similarly, the engineering knowledge was in Houston, and the manufacturing and operational knowledge was located there too. These knowledge communities yielded important innovations, such as blowout preventers that ensured that the industry could operate more safely and efficiently. In an era when Houston's industry simply *had* to operate more cost effectively, they found ways to do just that – and these developments led to economic jackpots down the road. Finally, Houston has always had a stronghold on vital financial knowledge – Houstonians knew how much capital to deploy on a project, for instance, so that massive expenditures did not become massive sinkholes for investors' funds.

And on, and on, and on. In sum, the city's intellectual capital made it a fierce global competitor, and the globe responded by coming to Houston for this knowledge.

Best of all, this knowledge-driven transformation was not only enjoyed by "elites." In the 1980s, Houston was a blue-collar town with a blue-collar industry, but today it looks very different. There are no longer 4500 oil rigs in North America, as the industry pushed the grunt work to international sites – but the intellectual capital has remained in the US, and especially in Houston. These differences can be observed in the types of business decisions that are commonly made in the city. Whereas decision-makers in Houston used to agonize over whether they should deploy 5 or 10 drill bits, today, the decisions made in Houston reflect its position as a international hub of financial intellectual capital. Decisions such as whether to allocate enormous amounts capital off the coast of Brazil or in the North Sea are more typical, and the transition within the town from a "blue-collar" industry to a highly educated workforce has mirrored this change.

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Moreover, these intellectual capital benefits extended well beyond the city's oil industry: much of the *world's* engineering work is now done in Houston, because this knowledge community has faced complex engineering challenges and solved them. In a strikingly full-circle development, even alternative energy firms (touting the likes of wind and solar power) come to Houston nowadays because they know that the city is home to this cadre of world-class engineers.

The internationalization process also has led to a "rotation of talent" worldwide, whereby an oil executive anywhere in the world knows that he/she will have to spend his/her three years in Houston at some point. As a result, there is a tremendous flow of talent in and out of Houston today. This benefits Houston because the inflow and outflow of expat and domestic talent serves to provide the Houston oil hub with "bigger picture" perspectives on the international oil industry – and indeed, on the community as a whole. This ex-pat population has had an enormous sociological influence on the community of Houston, as it drives quality of life issues, improves the diversity of arts offerings, and supports a vibrant educational infrastructure. Those who have lived in Houston a long time can attest that the city has become a much more cosmopolitan town of late, and that this is attributable to its internationalization – which is in turn due to its key industry's intellectual capital.

Hence, Houston's successful transformation is likely traceable to several factors, but one primary reason Houston has thrived appears to be related to the concept of "intellectual capital," or the knowledge that converts raw materials and thereby adds value[19]. When asked to reflect on Houston's strengths, John Hofmeister, the former CEO of Shell Oil, put it this way: "Here's what makes Houston unique. It is the intellectual capital that exists here across the entire range of energy producers"[20]. Put simply, Houston got smart, got global, and in the process got itself well-positioned to thrive in the 21st century.

Las Vegas, The Sequel: Global Command Center?

If we listen to the media, it would seem Las Vegas' back has been put to the canvas at last – first by Macao, and then, in the most recent knockdown blow, by young upstart Singapore. The latter seems particularly stunning to those who contemplate gambling's increasing social acceptance; now a locale where one is unable to legally purchase gum allows millions to purchase gambling, and at rates that exceed those found in a sinful city that allows practically *anything*. The local, national, and international media have had the metaphorical field day with these developments. From the *Las Vegas Sun's* Jon Ralston's teasing tweets that the gaming capital has "moved east," to the national media reveling (once again) in Las Vegas' demise, many seem to believe that the giant has been toppled.[21]

The drama behind this toppling – and the compelling narrative of a fallen Goliath – hides a different reality, however, and one that is both more and less sexy than the "build 'em up and take 'em down" tale often told in the popular press. It turns out that Las Vegas remains a powerful Goliath, but one that operates less from the glittery floors of its casinos, and more from the staid corporate hallways of its international business headquarters.

Let us first focus on Macao. It is easy to forget that until very recently, local interests owned precisely 100% of the Macao market, holding a monopoly on China's primary gaming playground. Today, however, Las Vegas has invaded: 40% of Macao's casino revenues are now generated by Las Vegas-based companies (see Figure 1). Specifically, Las Vegas Sands (a company which revolutionized the Macao casino business, and then Las Vegas-ized its casino resort business) enjoys a rough market share of 15%, Wynn (a company which revolutionized the Las Vegas casino business) now has 13% of the Macao market, and MGM (whose founders have built the world's largest hotel-casinos no less than four times, with the International, the first MGM Grand, the second MGM Grand, and now CityCenter all going up within a few miles of each other in Las Vegas) finds itself with an 11% market share that has been growing of late. Much as the oil world knew that relevant oil knowledge was housed in Houston, the international gaming industry has recognized Las Vegas' casino resort model as the best way forward – and indeed, it has often recognized Las Vegas companies (and executives) as the most qualified captains of industry in this new era. In the same way that Houston's big companies started to play a vital role in the international oil scene when its domestic business was threatened, so too have Las Vegas' pioneering companies marched aggressively onto international shores of late.

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Figure 1. Macao Market Share, 2011 (rolling average through Q3)

Company	Market Share
SJM (International)	31%
Las Vegas Sands (Las Vegas)	16%
Galaxy (International)	14%
Wynn (Las Vegas)	14%
MPEL (International)	13%
MGM (Las Vegas)	10%
Totals	100%
Total Las Vegas Share	40%

Source: UNLV International Gaming Institute research estimates

There are certainly caveats to these data, as Galaxy's summer, 2011 creation on the Cotai Strip is achieving numbers that are remarkable even by Macao standards – but then again, this might hold true only until Wynn and LVS build their next Cotai Strip destinations. However, the broader trend is clear, and it involves a transformation of companies whose headquarters are located in Las Vegas into globally dominant forces.

Meanwhile, if we look beyond the casino data, the picture actually gets rosier for Las Vegas companies in Macao. By most accounts, much of the revenue generated in the Stanley Ho empire ends up back in mainland China, through revenue share agreements with a variety of junket operators and other entities. For their part, the Las Vegas operators – savvy international navigators, they – have figured out a way to keep more of their own revenues in their own pockets. And when we look to the future, some of these portraits get even more encouraging: the next generation of casino developments in Macao will look less like Stanley Ho's traditional properties and more like those on the Las Vegas Strip. The now-ubiquitous "integrated resort" model (so euphemized because of the Singapore government's discomfort with the word "casino") is the clear choice for the Cotai Strip, where the next ten years' worth of development will take place. Of course, it remains to be seen if Las Vegas companies will dominate this period, but the model itself was created in the intellectual hub that is Las Vegas. And to invoke the unfortunate phrase, what was created here has not stayed here – but this seems to be good news, as it has been exported to the rest of the world from a command center that is still located in the city.

Strikingly, when we turn our attention away from Macao to the global gaming world's newest darling, Singapore, the city-state yields almost identical market share figures. In a jurisdiction where there are only two players (one Las Vegas-based, one Malaysia-based in Genting), Las Vegas Sands generates roughly 40% of Singapore's casino revenues. Of course, it is worth mentioning that in all of the areas that the Singapore government publicly prefers to talk about (namely, those outside of the casino), Las Vegas Sands is leading the way: they have superior tourist amenities, world-class entertainment and F&B offerings, a MICE (meetings, incentives, conventions, and exhibitions) facility that is the envy of the region, and best of all from Singapore's perspective: an iconic architectural design that has transformed sleepy Singapore's image into one of innovation and excitement.

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The dominance continues when we look to the Las Vegas-based manufacturing industry. Virtually every major gaming manufacturing company in the world – from slot giants like IGT, Bally, WMS, and yes, even international companies like Konami and Aristocrat – chooses to have a global HQ in Las Vegas. Many, in fact, have actual manufacturing plants in the city (who says Las Vegas manufactures nothing outside of "experience"?) These businesses maintain a dominant share of the slot business in Macao (where their combined market share is well over 90%, with Aristocrat leading the way at almost 60%, and then IGT, WMS, and Bally coming in at around 11%, 10%, and 9% respectively). In Singapore these companies also have a combined market share of over 90% (highlighted by market leader Aristocrat holding on to 39%, IGT coming in second at 20%, followed Bally at 16% and WMS at 12%).[22] Furthermore, Las Vegas-based table games giant Shuffle Master is arguably as dominant any company in the global gaming industry, and table games, you may have heard, play a fairly important role in the new gambling playgrounds found in the Far East.

In sum, the portraits emerging from Singapore and Macao provide evidence for optimism about Las Vegas' status as a global command center -- one that oversees a diverse set of international entertainment projects centered around the "casino in the middle." As it stands today, Las Vegas produces much of the world's gaming economy, and much of that "production" comes from the intellectual capital located in corporate headquarters that are in turn located in Las Vegas. This is not the Las Vegas of old, where the world came to the city – but this is a historical moment when the city has come to the world.

Conclusions: Las Vegas as the Houston of the Gaming Industry

For Las Vegas to continue its evolution into a global command center for the international gaming industry, the city's stakeholders would be wise to study the evolution of Houston, and to recognize that a laser focus on intellectual capital provided a means to this vital end in the city of oil. Producing intellectual capital is not easy, to be sure, and indeed, the fact that it cannot be learned or produced overnight provides a challenge for a city whose key industry focuses upon immediate gratification. But based upon the historical and current-day investigations laid out in this article, we might provide a few suggestions to those who lead Las Vegas – and who indeed lead a capital of a now-international industry.

First, it sounds simple, but Las Vegas must do whatever it can to be perceived as an attractive location for talented individuals. Houston's community leaders are quick to draw attention to civic investments that improved the quality of life for its residents – especially for those residents that the city competes for when attempting to attract intellectual talent in a global marketplace. The energy industry in Houston has invested large sums of money in cultural projects, with the goal of making the city appealing to the talent the industry wishes to capture. For instance, Houston has a $626 million art community, with an internationally recognized symphony and bustling live theater community. Roger Plank, president of the energy company Apache, put it this way: "if we're going to have our headquarters here, we want to support organizations that make Houston a better place to live." Plant elaborated that he doubted that he could attract the caliber of engineers and executives required if his headquarters were located in industrial cities that have chosen *not* to invest in these kinds of post-industrial community upgrades[23].

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In this sphere, there seem to be encouraging and surprising trends in a city, Las Vegas, which is not typically known for this sort of cultural amenity. For one thing, the city's leaders have combined forces to fund a world-class brain research center to focus intellectual energy on the last great mystery of human anatomy. Then, in a move that might appear to compete with the city's core entertainment product, a traditional performing arts center is shooting skyward in downtown Las Vegas, with leaders of the gaming and hospitality industries contributing an impressive and appropriate share of capital and energy. And another encouraging development is taking place even deeper downtown, where retailer Zappos.com (when it is not breaking its own online sales records) is in the process of moving its world headquarters to downtown Las Vegas' old City Hall building.

Zappos CEO Tony Hsieh sounds remarkably similar to Apache Energy's Roger Plank when he talks about his latest passion: revitalizing Las Vegas' cultural scene in the heart of the city. "To get the kinds of people and businesses here to make it happen, you're not going to do that with just the Strip," Hsieh says. "If that's all Vegas offers, they won't come here." Hsieh further echoes Plank's points on Houston's transformation into a desirable place to live when he says "I want to help create a place where I would want to hang out."[24] Interestingly, Zappos first moved to the city because it provided a more affordable quality of life for its working-class call center employees – especially in contrast to San Francisco, the city that the company used to call home. At first, Las Vegas proved an attractive locale for the talented souls in Zappos' call center. Today, Zappos' investment in downtown (including a recent purchase of the city's First Friday arts festival) will benefit not only its vital call center workers (who constitute 800 of Zappos' 1200 local employees) – it will support amenities that can attract and keep executive leadership in the city as well.

Overall, however, it must be said that there is room for growth here, and that the Las Vegas commercial gaming industry would be wise to further recognize the importance of investing in the community. It is a stark illustration, but one worth noting here: a number of gaming industry leaders today still commute to and from Las Vegas during the work week. If Las Vegas desires to attract the level of talent that is required in a global command center of gaming, the industry must transform Las Vegas into a community that eliminates the motivation to leave town for the weekend.

A second clever strategy to infuse Las Vegas with (figurative) energy can also be found in Houston – and specifically, in that city's (literal) energy workforce. In the aforementioned "cycle of corporate life," young executive talent in the oil industry often spend an important portion of their early career in Houston, learning the business' best practices before they are cycled back out to international locales. Then, after a number of years, many of these individuals will rotate back through Houston, bringing more knowledge and experience that they have acquired in the (international) field. These intangible assets are then redistributed throughout the community, and the cycle continues, with bright minds "doing their time in Houston" as a necessary chapter in their development.

The Las Vegas gaming industry and its stakeholders are well positioned to nurture a similar system. Already, students from around the world come to Las Vegas seeking undergraduate and graduate educations focusing on gaming, and many of these students move from internships to jobs in the industry. Meanwhile, many younger employees in the gaming industry are now bragging of their time spent in Macao, learning about globalization in the world's most lucrative market and then bringing this knowledge back home to Las Vegas. To facilitate these kinds of cross-national cross-pollination processes, Las Vegas should pursue honorary consuls, which are relatively easy to set up and can foster a strong social and legal support system for ex-pats. Once more, the model here is in Houston, where consulate offices were originally established because of the oil industry, but ultimately benefitted other sectors as well. In Las Vegas, it might be possible to encourage honorary consuls to help with visas and other domestic challenges that might emerge between countries that wish to share resources.

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One final infrastructural factor merits a mention here: Houston's global status has been cemented via its world-class airport system, which has tremendous connectivity to both Latin America and Asia (the two major growth hubs in the 21st century, we might note). From Houston's airports, not only are there direct flights to Latin America and Europe, but also to Abu Dhabi and Angola – for obvious business reasons. When making arguments to companies about corporate relocation, Houston can argue quite simply: no matter where you are based, no matter where you need to go, you can easily get back to the home office, wherever that may be. Similarly, Las Vegas boasts a climatologically advantageous setup for flying (read: it has sunny weather), but its airport needs to boost connectivity to Asia immediately, and to Latin America soon (as several jurisdictions in Central and South America serve as prime next-generation candidates for global integrated casino resort expansion, and for online gaming expansion).

Speaking of online gambling, while Houston boasts one infrastructural advantage that Las Vegas does not (its status as a port city), in typical fashion Las Vegas has created a man-made infrastructural advantage that bodes particularly well for where the gaming industry is headed. Privately held Switch Communications operates a highly secure data center out of Las Vegas – one whose genealogy also can be traced to energy, and hence to Houston. When Enron sought to expand from energy trading to information and bandwidth trading, they began to build information storage facilities. These facilities ultimately crumbled alongside Enron's business empire – only to be snapped up by entrepreneurs who recognized Las Vegas' geographic advantages (no major natural disaster threats, for instance) and set up a massive HQ and warehouse just a few minutes from McCarran Airport. It is difficult to exaggerate the scope of this project: some observers have called it "the most advanced computing center in the world," as it hosts the world's largest companies (or more accurately, their data) in a facility that is "the internet superhighway wrapped up in one package."[25] As mesmerizing as the Switch facility is on a general level, it has particular relevance for our specific purposes here, as it potentially provides a unique on-ramp to an internet gambling superhighway. If Las Vegas' gaming companies are able to leverage their political muscle in Washington D.C., and then leverage the infrastructural advantage that is the mega-computer in their backyard, the city just might catapult itself into a future when gambling is not only consumed on-site in billion-dollar gambling cathedrals, but also on one's person in the form of the smart phone or laptop.

Our third and final suggestion will seem self-serving, but that makes it no less true. Las Vegas must take an active interest in educating and developing talent that can handle the complexity of the gaming/entertainment industry's future – a future that promises to expand both physically (into new casino jurisdictions) and virtually (through the expansion of online gambling). As we have seen in Houston's oil industry, the nature of executive decisions in the global gaming industry changes as the scope of the industry evolves: whereas before managerial gaming decisions focused largely upon casino floor configuration, today executives must focus upon more complex decisions such as the configuration and allocation of development capital (Taiwan or South Korea? Massachusetts or Florida?)

40% of Macao's casino revenues are now generated by Las Vegas-based companies

Humbly speaking, we might note that Las Vegas already boasts a world-class system at the top of the educational food chain: UNLV houses one of the top hospitality schools in the United States, and this program focuses heavily upon and gaming education and research. Here, however, the potential could be realized in a much more impressive fashion, by further closing the gaps between the college and the gaming laboratories that exist only about a mile away. To understand this process through a different urban lens (indeed, one that humbles Las Vegas' educational credentials), we might turn to Boston, where an entertainment industry of a different stripe has enjoyed remarkable success over the past decade.

The Red Sox Collapse of 2011 notwithstanding, each of Beantown's major sports franchises has won championships recently, and this development has been traced right back to an "intellectual capital" approach to management made famous in the book (and now film) *Moneyball*. Today, Boston's local universities play a major role in development of "executive bench strength" for its sports franchises: Harvard has a popular sports statistics club, Tufts has taught courses in baseball decision analytics, and MIT's Sloan School of Business hosts the world's most prestigious sports analysis conference every year. The local teams eagerly play catch, in the Boswellian spirit, with these sons and daughters of the educational enterprise: each of the major franchises in the region supports student internships and participates in academic panels hosted by these programs. Meanwhile, many students from these schools aspire to take their analytical minds to the Red Sox, Celtics, Bruins, or Patriots, and these teams' cycle of success begins to look quite self-sustaining.[26]

Meanwhile, if we look beyond the casino data, the picture actually gets rosier for Las Vegas companies in Macao.

And so it could be for Las Vegas, if the city supports the talent necessary to drive innovation. Thinking of Las Vegas as a "Houston" or a "Boston" might seem almost comical at first blush, but these two cities certainly provide a relevant road map for the city's future, and the comparisons are not nearly as nonsensical as the city's critics might think.

1 This article owes much of its existence to three heroic research souls: Robert Lang, who came up with the original concept, Brendan Bussman, former Director of Government Relations at Las Vegas Sands, who buried himself in Singapore and Macao data, and Patrick Jankowski, Vice President for Research at the Greater Houston Partnership. The authors are particularly grateful for Mr. Jankowski's expert perspectives on Houston's evolution, and his historical voice is "heard" throughout these pages.

2 Nevada Gaming Commission and State Gaming Control Board. (2000-2011). *Gaming Revenue Report Index* (Index of PDF data files). Retrieved from http://gaming.nv.gov/gaming_revenue_rpt.htm

3 Las Vegas Convention and Visitors Authority (n.d.) *Population trends*. Retrieved from http://www.lvcva.com/getfile/241/Population%202010.pdf

4 Moehring, E. P. (1989). *Resort city in the sunbelt :Las Vegas, 1930-1970*. Reno: University of Nevada Press.

5 Moehring, E. P. (1989). *Resort city in the sunbelt :Las Vegas, 1930-1970*. Reno: University of Nevada Press.

6 Moehring, E. P., & Green, M. S. (2005). *Las Vegas :A centennial history*. Reno: University of Nevada Press.

7 Moehring, E. P. (1989). *Resort city in the sunbelt :Las vegas, 1930-1970*. Reno: University of Nevada Press.

8 For a thorough historical review of the modern casino resort, David Schwartz' research is particularly

helpful, and much of it is summarized in his epic work *Roll the Bones*. See Schwartz, D.G. (2006). *Roll the Bones: The History of Gambling.* New York: Gotham Books.

9 Bernhard, B.J., Green, M.S. & Lucas, A.F. (2008). From maverick to mafia to MBA: Gaming industry leadership in Las Vegas from 1931 through 2007. *Cornell Hospitality Quarterly, 49*(2), 177-190.

10 *The national gambling impact study commission final report.* (1999). Washington, D.C.: National Gambling Impact Study Commission.

11 Shonkwiler, J. S. (1993). Assessing the impact of Atlantic City casinos on Nevada gaming revenues. *Atlantic Economic Journal, 21*(2), 50.

12 *The national gambling impact study commission final report.* (1999). Washington, D.C.: National Gambling Impact Study Commission.

13 See, for instance, Dowling and Uncles' seminal 1997 work examining customer loyalty, and concluding that distribution seems more important than loyalty schemes: Dowling, G.R. & Uncles, M. (1997). Do customer loyalty programs really work? *Sloan Management Review 38*(4), 71-82.

14 McComb, D.G. (n.d.). *Houston, TX.* Retrieved from http://www.tshaonline.org/handbook/online/articles/hdh03

15 McComb, D.G. (n.d.). *Houston, TX.* Retrieved from http://www.tshaonline.org/handbook/online/articles/hdh03

16 McComb, D.G. (n.d.). *Houston, TX.* Retrieved from http://www.tshaonline.org/handbook/online/articles/hdh03

17 McComb, D.G. (n.d.). *Houston, TX.* Retrieved from http://www.tshaonline.org/handbook/online/articles/hdh03

18 Once more, this entire section owes much to Patrick Jankowski's expertise, which we were able to rely upon through a series of e-mail and phone interviews.

19 Stewart, T. A. (2011). *Intellectual Capital*. Retrieved from http://www.qfinance.com/contentFiles/QF01/g956u8c7/11/1/intellectual-capital.pdf

20 McNulty, S. (2010, March 25). Houston: Where energy is king. *FT.com.* Retrieved from http://www.ft.com/intl

21 Interestingly, the media has been predicting Las Vegas' demise for some time. The June 20, 1955 issue of *LIFE* magazine blared the headline on its cover: "LAS VEGAS – IS BOOM OVEREXTENDED?" The answer provided in its pages: yes.

22 Source: UNLV International Gaming Institute research estimates. There are important caveats here: while Aristocrat is certainly an Australian company, and one that owes much of its dominance to the presence of Australian slot managers throughout Asia, it is *also* a very large Las Vegas company – much as British Petroleum operates as a Houston company too. The key takeaway is that large amounts of intellectual capital in Las Vegas are linked to the world of gaming in a way that has come to dominate the international industry.

23 McNulty, S. (2010, March 25). Houston: Where energy is king. *FT.com.* Retrieved from http://www.ft.com/intl

24 Schoenmann, J. (2011, March 17). Zappos CEO envisions a new community downtown. *Las Vegas Sun*. Retrieved from http://www.lasvegassun.com

25 Vance, A. (2008, May 24). Welcome to Las Vegas: Home of the technology superpower you've never heard of. *The Register.* Retrieved from http://www.theregister.co.uk/2008/05/24/switch_switchnap_rob_roy/

26 This analogy was guided by the journalistic work done in Peter Keating's insightful article "Why Boston is better than you" – focusing heavily upon the intellectual capital of that city's sports industry. See Keating, P. (2011). Why Boston is better than you. *ESPN The Magazine,* October 3.

Much as the oil world knew that relevant oil knowledge was housed in Houston, the international gaming industry has recognized Las Vegas' casino resort model as the best way forward – and indeed, it has often recognized Las Vegas companies (and executives) as the most qualified captains of industry in this new era.