TO justify spending hours steering dimpled balls into plastic cups, many business people explain that golf is great for building relationships with clients. This reasoning, of course, makes the great untanned masses back at the office suspect that golf is merely a clever excuse for playing hooky.

But now, people who drive, chip and putt during the workday need slink to the links no longer. Improving one's golf game, it turns out, really is good for business.

That, at least, is a conclusion one can draw from a rigorous study by The New York Times of the golfing and management prowess of America's chief executives.

Comparing the handicaps of a group of corporate chiefs, as reported by Golf Digest magazine, to their companies' stock market performance over three years, a clear pattern emerges: If a chief executive is a better-than-average golfer, he is also likely to deliver above-average returns to shareholders.

The Times looked at the 51 chief executives who appear both in Golf Digest's June issue and in the data base of large-company executives maintained by Graef Crystal, who edits a San Diego-based newsletter on executive compensation.

After scientifically sifting out a handful of chiefs because of their statistical extremes, the 11 executives whose companies delivered the best stock market performance over three years also had the best average handicap index: 12.4.

(A note to nongolfers: The lower the handicap, the better the golfer. And a handicap "index" is basically a way for players to compare skills; it accounts for the relative difficulty of the course where they established their handicaps.)

The next group of 22 chief executives, whose companies' performance in the market is middling, are somewhat worse golfers, with an average handicap index of 14.6.

The bottom 11 executives in the sample, whose companies turned in a subpar market performance, are poorer golfers still, with an average handicap index of 17.2.
The correlations among these data are hardly a statistical fluke. Mr. Crystal, who performed the complex and probably unprecedented calculations, said the probability that the findings were due to chance alone is less than 1 percent.

"For all the different factors I've tested as possible links to predicting which C.E.O.'s are going to perform well or poorly, this is certainly one of the oddest -- but also the strongest -- I've seen," he said. "There's got to be something here."

But what, exactly? As tidy as the statistical correlation may seem, there remains the tricky matter of figuring out why better golfers also tend to be better chief executives, or vice versa.

Perhaps time on the golf course offers an opportunity to think big, strategic thoughts. Perhaps natural leaders also tend to be natural athletes. Maybe perseverance and the ability to focus -- useful qualities in any endeavor -- pay particularly large dividends in big business and golf. Or perhaps caddying as a youngster offers future chief executives the dual advantage of building golf skills and immersing their sponge-like minds in business banter between strokes.

Michael J. Fradette (handicap index 6.5), a consultant with Deloitte & Touche who has played golf with about three dozen chief executives through the years, has his own theories.

Chief executives, he said, tend to be competitive in all walks of life -- maybe more so in golf even than in business. They are likely to be scrutinized more closely by their partners on the links than they are by shareholders at their annual meetings, he explained.

"They don't want to embarrass themselves on the golf course," Mr. Fradette said. "They will torture themselves to get it right."

It's not easy to learn what chief executives think of all this. Few like to talk -- publicly -- about their golf games, probably for fear that it will appear that they are relaxing instead of toiling away on behalf of their stakeholders.

Golf Digest, which is published by The New York Times Company, sent surveys to the chief executives of the 300 largest companies in the Fortune 500; only 74 revealed their handicaps. One executive who declined to participate in the survey explained to the magazine: "There is absolutely no upside in my doing this. Somewhere, somehow, it'll bite me."

One executive who appeared in the survey, John F. Welch Jr., the chief executive of General Electric, is a terrific golfer (handicap index 3.8); last winter, he beat the professional golfer Greg Norman in a friendly match in Florida. But in all his interviews, speeches and writings, there is precious little about golf, according to a company spokeswoman.

In Janet C. Lowe's book, "Jack Welch Speaks: Wisdom from the World's Greatest Business Leader" (Wiley, 1998), Mr. Welch shares the fact, however, that teaching the game to his second wife, Jane, made him a better golfer. He is also quoted as saying that time away from the job is important, whether it is spent golfing, skiing or whatever. "Put down a list of the 20
things you're doing that make you work 90 hours," he says, "and 10 of them have to be nonsense, or else somebody else has got to do them for you."

Scott G. McNealy (handicap index 3.2), chief executive of Sun Microsystems, was captain of the golf team during his undergraduate years at Harvard University. Busy, no doubt, defending his company against the Microsoft juggernaut, he, too, has not written or spoken much about his game publicly, according to a spokeswoman for Sun.

His archrival, William H. Gates, the chief executive of Microsoft, has become a spokesman for Callaway Golf -- part of an effort, observers have said, to build a more three-dimensional public image.

A terrific performer in the boardroom, Mr. Gates carries a nothing-to-brag-about handicap index of 23.9. In one Callaway ad, he explained: "I started playing golf about five years ago, and I don't know about you, but for me, it was really humbling. I like it, but it's so frustrating."

Mr. McNealy and Mr. Gates are among the seven chief executives whom Mr. Crystal stripped out of his analysis because their golfing and corporate performance were outliers, unduly influencing the study's overall pattern. (This was done in strict adherence to statistic-crunching practices; it is not the equivalent of kicking a ball out of the rough and onto the fairway when no one is looking.)

Another chief executive left in the statistical clubhouse was Christopher B. Galvin of Motorola. He has a decent handicap index, 11.7, but his company's sluggish stock performance in recent years suggests that his current mix of golf and work isn't quite right.

GIVEN the strong correlation between golf handicaps and performance, executive wannabes can glean an obvious career-advancement tip: Spend more time on the links.

Mr. Crystal said boards of directors might also want to consider new incentives for chief executives. The most popular technique for influencing performance, of course, is to issue stock options. Studies, though, have shown time and again that there is little to no connection between the size of a chief executive's compensation package and the performance of his company.

But because a low handicap appears to be a pretty good way to predict performance, Mr. Crystal said, corporate directors may want to give out stock options that vest only if the chief executive lowers his handicap by a certain amount.

"Or simpler still, if they can get their handicap down to 4, why not just pay them an extra 20 million bucks?" Mr. Crystal added. "According to this correlation, the company will perform better if they reach that mark. Maybe."

Keeping Score
To determine the golfing prowess of chief executives, Golf Digest surveyed 300 large corporations. Only 74 provided information on their top officer's golf game, but research let the magazine expand its list to include 110
chief executives with United States Golf Association handicap indexes. (Italics, ours.) (The index is a measure that equates handicaps earned on different golf courses.)

Separately, to determine the boardroom prowess of the corporate chiefs, Graef Crystal, editor of the Crystal Report newsletter, maintains a data base on the pay and performance of 279 executives.

Mr. Crystal ranks the boardroom performance of each executive against the 278 others by shareholder return, defined as stock price appreciation plus reinvested dividends, blended over three periods to minimize short-term anomalies. The company with the highest overall score was assigned a performance rank of 100, while the company with the lowest score received a rank of 0.

Of the 110 executives on Golf Digest's list, 51 are also in Mr. Crystal's data base. Mr. Crystal ranked the 51 executives by their market performance, then divided the list into three groups: the top and bottom quarters, and the middle 50 percent. Averaging the handicap indexes and performance rankings for each group showed that, over all, the top-performing companies were led by the best golfers.

Following accepted statistical techniques, Mr. Crystal removed seven chiefs from the analysis because they distorted the trend lines.

GRAPHIC: Photo: John F. Welch Jr., chief executive of General Electric, has had some illustrious golf outings. Last August, he played a round with President Clinton. (Associated Press) (pg. 9)

Chart: "Playing It as It Lays"
Graef Crystal, an executive compensation expert, compared results of a Golf Digest study of the handicaps of chief executives with his own data on the three-year stock market performance of the largest companies. He found that the best companies, as a group, are led by the best golfers. Charts divide the C.E.O.'s in the study into three groups: the top quarter, by corporate performance; the middle 50 percent, and the bottom quarter. On average, as market standing falls, handicaps rise. (Seven executives were at such statistical extremes that Mr. Crystal left them in the clubhouse, for ranking purposes.) (Sources: Golf Digest; Graef Crystal) (pg. 9)

Drawing (Chris Murphy) (pg. 1)