



Why do ergonomic and sustainable office solutions make a company more competitive and reduce their costs?



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According to the German non-profit organization Buero forum, office work is very important for any kind of business, even manufacturing companies rely on the performance of their offices to a degree of 60 to 80%. Because the success of a company relies heavily on the performance of management, finance, sales, marketing and other departments located in an office environment. (buero-forum,2006) Therefore companies strive for best office performance in order to be successful and compete with their competitors. However, to run an office is also very expensive and companies tend to economize much on offices, which could lead to undesired outcomes, that are sometimes directly related and obvious but most outcomes are hidden indirectly and people are not aware of it. Many outcomes are revealed thanks to the work of ergonomic scientists. The science of ergonomics tries to find out all the aspects that improve system performance and human wellbeing. ("Human factors and," 2013)The following essay will explain why ergonomic office solutions should be considered by companies, who want to improve office performance and save cost, in order to be more competitive.

Ergonomic office solutions can decrease human resource costs and increase health of employees. Running an office is expensive, consisting of personal expenses (80%), material and office technology expenses (4-5%), building expenses (14-15%) and furniture expenses (1-2%)(buero-forum,2006). Besides being the smallest of office expenses, furniture is the one many companies save on most, followed by building expenses. Maintaining old, unhealthy and system performance unfriendly furniture will skyrocket personal cost over time. So the above mentioned office furniture are not ergonomic and will not only affect the human being, but also the overall system performance. Health insurance companies count that one fourth of all sick certificates is issued because of musculoskeletal disorders. Leading to approximately 100 million days of work disability, which result in production downtimes in the amount of 8,5 billion EURO, together with therapy costs reaching 50 billion. Investing in ergonomic solutions in chair and table could erase this cost and production downtimes, when the employee is also trained, to adapt ergonomic practices so that they know how to work healthy in an office workplace. Because sitting on an ergonomic chair is not enough, if you sit wrong, your health still get worse, only by learning how to sit and work healthy you can adapt ergonomic practices. (Stehle, Erhardt,2013)

The invested ergonomic chairs and tables together with adapted ergonomic practices can further increase efficiency and productivity. The table and all equipment on top of it should suite the processes and work done by the employee. Often the Tabletops are too small, in a mess or prevent from performing well. Bigger tabletops with an inner curve, letting the employee sitting more in the center and have access to everything on his table without the need to use chair maneuvers, leads to less time, energy and tension used. Together with a well ordered tidied and no cable tangled tabletop results in better efficiency and productivity.

Another ergonomic aspect that is affecting performance and human well-being is the feeling of safety. Nowadays many offices have workstations, based on a squared table with build in container (cupboard) and a chair, which are often in pairs of 2 or even 4, as a cubicle workstation. All tend to have a partition panel in front of each other, which is good for protection. But if they not fortunately

have a wall or a cupboard behind them, they will have an exposed location, which gives an unsafe feeling in which you get distracted easily. Therefore the problem of working on a table without any kind of protection or separation on sides and back is, that every approaching person will tend to stop right next to you, not more than half meter away, letting you feel very uncomfortable. That's because they entered your privacy sphere, without your awareness. (Jordan, 2006) The back protection and privacy problem can easily be solved when adding individual persons into a team of 3 to 4 people, by adjusting the tables in a circle with the people in the center, backing each other. The privacy sphere is also automatically created out of  $\frac{1}{4}$  of the circle for each person. The privacy sphere cannot be sneakily entered, because approaching people first need to enter the circle, what they will not do, because they need to approach a team, instead of an unprotected one. They will tend to wait at the entrance or talk to people from outside the circle. (Jordan, 2006) Result is a better communication within the team, more friendly and happy employees, with all their attention towards their work, increasing productivity and efficiency. Additionally it is one reason for employees to stay with the company they work for, skipping human resource costs for training new ones and remaining competitive by not losing employees to competitors.

Besides a good protection, acoustic is important for good communication in an ergonomic office. Most offices struggle with the problem of acoustic, being either too loud or too unclear because of reflections. After they found out this problem, most often they can buy only expensive upgrades, with small total effect on the acoustic problem. According to Jordan, the problem consists of 2 parts. Total sound level, can be lowered, by dividing the office in smaller rooms, with solid walls that don't let sound through, also known as sound insulation. Also glass walls are a good choice, by still giving the appearance of an open office. Secondly sound insulation cannot be upgraded in high degree. Sound absorption on the other side can be upgraded but is still cheaper and more effective if invested at the beginning. If sound absorption is bad, sound waves will reflect often in the room, resulting in unclearness. Normal loud spoken things are difficult to understand, resulting on one side, that people speak louder. So total sound level gets more to a problem. On the other side, people tend to speak less often, because they feel uncomfortable of reflections. Both resulting in worse communication in the office, distractions and changing the mood of office people in a bad degree. Ergonomic acoustical room planning together with sealing and furniture capable of sound absorption solve this problem. (Jordan, 2006)

Ergonomic office solutions can make employees more creative and inspire them by giving a good work atmosphere. When the above is done, people in the office have a good base for efficient and productive work. Also to give people inspiration and creativity, more ergonomic improvements need to be done. Creativity is important not only for design, many professions need creativity to find for example new ways of solving a problem or marketing. The future of a company is affected by improvements, ideas, plans and developments that only happen when people are creative. Inspiration can encourage you to better and harder work. According to Jordan, inspiration and creativity is highly affected by your surroundings. He found, that people are more inspired and creative in natural beautiful peaceful places than in grey looking offices. If you bring the feeling of such places into an office, creativity and happiness increase and people could be more inspired. This

can be done towards our senses. For the eye, in form of shapes, colors, light and not monotone surrounding. For the ear in lower sound level without reflection and nature elements like springs. For the nose, with flowers or water. And for the touch-feeling, in office material. (Jordan, 2012)

The light level has a big impact on office performance as well and therefore is vital for an ergonomic office. As our life is determined by the sun cycle so is our body's chemistry. (Adams, 2013) Our bodies is directly interacting with sun/light level. If working in an office, light is more of an issue, because you are interacting also with a computer screen and light could create some reflections or shadows. Most offices are using neon tubes as a light source, this neon tubes are of a limited light spectrum, compared to the sun with its full light spectrum, and do often fluctuate and can bring eye strain problems. (Adams, 2013) For offices little light is bad for work, so we need an optimal light level in an office. Beside light level and spectrum, light source need to be mentioned. Indirect light is best, because it doesn't create reflections. There should also be an even light level everywhere, so the light source needs to cover the whole room or there are many light sources. Often light source act like stars, because many offices have many single downwards shining lights implemented in the ceiling. As a result the ceiling remains dark, but the room is lighted by many direct light sources. This can result in the feeling of tiredness, because we compare the ceiling with the sky at night.

Ergonomic office furniture can be more sustainable than normal office furniture. Furniture in general are long living and companies investment into furniture approximately once every 5 to 10 years. It seems that normal furniture is already sustainable, but long livingness is not everything. Besides this furniture also need to be flexible to changes in personal or in location. Normal furniture often are fitting perfect into the current situation, because they were planned according to the needs of the customer in this situation. But when you want to increase your personal or move your office into another location, this furniture are not anymore fitting perfect. They may only be placed in groups of four or not detachable into single more flexible pieces. Many ergonomic furniture are considering this aspects as well, by flexible place ability or detachability and separation of pieces.

All this together can improve office performance drastically. Many ergonomic furniture and planning's have multiple applications that are affecting each other multiple times. As stated in the introduction, office furniture doesn't have a big impact on company cost directly by its investment, but indirectly influencing other office expenses. Non ergonomic offices influence costs indirectly, by increasing human resource costs and decreasing office performance. When investing in ergonomic office solutions, Ergonomic office solutions' make a company ready for the future, with healthy, creative and happy core staff, capable of giving best performance and inspired to bring the company to the top.

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## CV Louis Jordan



### Education:

2013-Sep to present: Donghua University, Shanghai, China

- BA Global Business Administration

2012-Sep to 2013-Jul: Shanghai International Studies University, Shanghai, China

- Intensive Chinese Language Course

2008-Sep to 2011-Jul: Albert-Einstein-High School, Ettlingen, Germany

- Graduated with GPA 2.3 (Abitur in German System)
- With Main Course in Metal working, electric, car and Power plants technic

### Work Experience:

2013-Jan to Present: Vital-Office, Hong Kong, China

- Special Assistant of the President
- Marketing with CRM System
- Sales Presentations and quotations
- After Sales service
- Quality control
- Training of production teams

2011-Sep to 2012-Jul: Vital-Office, Holzbachtal, Germany

- Internship in Vital-Office
- Designed new products
- Technical support and quality management
- Completed in team a database with graphical, commercial and product specific part for the branch-software furniture planning program pCon OFML
- Warehouse management

2008-Jun to 2008-Jul: Axtmann furniture, Pfaffenrot, Germany

- Internship in carpenter work

### Related Skills:

- Experienced in many kind of working with wood or metal in furniture business
- Technical knowledge
- Able to do CAD drawings in Auto CAD and Solid Works
- Able to use CNC machines and other machines used in furniture business

### Personal Information:

- Speak German and English (advanced level)
- Speak Chinese (conversational level)
- Speak French and Spanish (basic, if revise high school 3 year basis)
- studied and lived in Germany and China, well served with European and Chinese etiquettes.
- Good health, enjoy sports like gymnastics, skating, volley ball
- German citizen with study resident permit in Shanghai, China