



User-Centered Workplace Design

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Let's address

the **ELEPHANT**

in the room

The WORLD is Different, The WORKPLACE will be Different

What has changed?

What assumptions are no longer true?

How can we thrive?

All companies will need a "telework" plan

Employees will be more dispersed and will want to work away from major cities





TECHNOLOGY WILL HELP PEOPLE BE MORE REMOTE





As a result, focus moved from sheer work output to

focused to smaller creative groups



Companies have to offer more than a good salary to

attract talent. Great <u>talent</u> wins.



The biggest <u>talent</u> ergonomists have is **Empathy**

Ergonomics Change: 4 Main Pillars



USER CENTERED DESIGN EXAMPLE



GOAL:

Build a community

park in a major city

MEET THE TEAM



DESIGNER I want to make beautiful things







MARKETING

I want to make things desirable



ERGONOMIST I want things to be user focused

"I will show them my vision"



DESIGNER A park that encourages random interactions



"I will optimize with my skill"



ENGINEER Uses their skill to manage traffic throughout the park



"I will give them what they want"



MARKETING Surveyed occupants and they wanted to have more nature in the park



Circular Pathway Park



"I will track & observe them"



ERGONOMIST

What kind of people come to the park?Where are these people going?What is their main goal at the park?



A short

time later...

People created a shortcut through the park



Lesson:

Ergonomist focus on users. They are the only occupation that put people at the center



Pyramid of Human Needs



Current State of Ergonomics Programs



Ergonomics can go

beyond the minimum and

lead in the forefront of employees' productivity and happiness

So how do we advance the conversation?





Quantifying data will demonstrate **IMPACT** of ergonomics solutions

Human Factors Performance



Built Environment Ergonomics

TEMPERATURE

Human operate at an ideal temperature range of 22- 25 Celsius



The frequency and pitch of noise has been shown to impact stress and productivity

NOISE





LIGHTING

The light level and the color temperature impacts ability to focus and eye strain



AIR QUALITY Poor air quality and circulation will reduce performance and concentration

CASE STUDY: DO WINDOWS

MATTER?

view

Dynamic Glass



DALLAS FORT WORTH INTERNATIONAL AIRPORT



Proving That Health & Wellness is Profitable

What are the impact of dynamic windows?



Airport Built Environment





Shaded Gates (Blocked Views + Heat) Full Glass Gates (Glare + Heat)

DALLAS FORT WORTH INTERNATIONAL AIRPORT





Gate A-28 (Control Gate)

Gate A-25 (View Gate) Shift Business Model from Energy/Environmental Savings to Customer Experience Benefits



Longitudinal metrics focused on the impact of airport's economics

Customer Experience Impacts of Windows



Heat

Comfort

Spending

Quantitative Measures







Thermal Camera Seating Duration Surveys & Restaurant Receipts

Thermal Images



Regular Glass - 10:03AM **89.5F**



Dynamic Glass - 10:03AM **78.7F**





Factors of the Day:

1.) The sun rises direct glare and thermal discomfort

2.) Farther seats will not have access any glare

3.) Bar facing the glass will experience direct sunlight into customers' faces



Qualitative Questions

- Choice Selection → "If you could sit anywhere in the gate, where would you sit? How would rank the following amenities"
- Do they change seats, if so, what is the primary reason for changing seats?
- After survey was completed, subjects were physically brought to other gate and asked if they noticed anything different, comments were sorted into positive, null, negative

Dynamic glass optimizes natural light to keep passengers comfortable, spend more time & money at gates



DFW AIRPORT JUN 11

DFW Airport to spend \$25 million to install 'intelligent' windows

Aidan Quigley, Business News Intern 🕑 🗹

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Travelers at DFW International Airport soon could be more comfortable while they wait to fly. The airport plans to install specialized glass that controls the heat and glare entering through tarmac-facing windows in terminals.



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SFO Chooses View for Terminal 1 Renovation



Ergonomics is the secret weapon to unlock the best in human potential //

4 Main Pillars





Ergonomics is a company culture, not a single job function

Everyone can do it, Dream **BIG**



Thank you for your time







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