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JOURNAL OF
SHIFT PATTERN
TECHNOLOGY

C-Desk Technology



CDT Solutions

CDT has been helping companies with their staffing rosters since 1996. Through a combination of consultancy, training courses, text books and software we are able to help all companies no matter what their budget constraints. Running an efficient shift pattern can potentially save companies millions each year.

AREAS OF EXPERTIES

CDT has experience creating shift patterns for companies in Europe, America and Australia, across a range of industries, including universities, factories, police, medical organisations, government organisations, and maintenance companies. We have expertise in creating, running and negotiating shift patterns, operational research and mathematics for analysing workload. This allows us to assist companies in creating and running the perfect shift pattern.

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Shift Pattern Solutions

If your company uses staff rosters, they need to be efficient. If they are not efficient, the costs are always going to be far more than they need be. Unfortunately, it can take a long time to manually produce a staff roster without specialist help and appropriate software specially designed for this purpose. Training in Staff Rostering can produce a company that is more productive and efficient. There is no other area of management that will help your company more than staffing the business correctly.

As everyone running a shift pattern realises, the biggest problem is covering for staff absences and holidays. When essential staff can be absent without warning, or request long breaks for holidays, the effort involved in solving these problems can be disproportionately high. One of our areas of expertise is showing companies how to manage for absences and how to accommodate holidays as an integral part of the shift pattern. One favoured option by many organisations is to introduce a Holidays Included Shift Pattern (HISP) which is one of our specialties. If this is not appropriate for you we also have a lot of experience creating Holidays Excluded Shift Patterns and holiday management plans.

CDT now consults on a large range of topics. We advise clients on how to define workload, select a shift

pattern, organise cover arrangement, shift allowances, advise staff on fatigue, we help write the "Terms and Conditions of Employment" and have successfully negotiated between managers and unions

WORKSHOPS

As an organisation, you can engage us for teaching your staff the following topics. Each one takes a day.

CDT01 How to Create The Perfect Shift Pattern

CDT02 How to Manage Your Shift Pattern

CDT03 How to Implement Your New Shift Pattern

CDT04 Workload Analysis

CDT05 Operations Research

TEXTBOOKS

We currently have two published textbooks, with examples to help you create and run your shift pattern.

The Book of Shift Patterns: Book 1

How To Manage Your Shift Pattern: Holidays and Absences

SOFTWARE

VisualrotaX is our new shift pattern software which allows you to create and run shift patterns effortlessly. With features such as individual calendars and absence trackers you can now manage your shift pattern like never before.



C-Desk Technology
consulting

Workshops

As an organisation, you can engage us for teaching your staff the following topics. There are 5 separate workshops and each one takes a day. They are priced as £2500 per day for up to 20 staff.

CDT01 How to Create The Perfect Shift Pattern

CDT02 How to Manage Your Shift Pattern

CDT03 How to Implement Your New Shift Pattern

CDT04 Workload Analysis

CDT05 Operations Research

Each of these workshops gives your staff an in-depth and practical look at what is involved in re-organising their staff into a more efficient and reactive organisation. Each presentation will include examples of the types of solutions used successfully by many of the leading companies in the world. We can even include your special operating parameters into the presentations making them even more relevant.

VisualrotaX

The new shift pattern software for all your staffing needs. With VisualrotaX you can create shift patterns for a whole year in minutes. Running a shift pattern couldn't be easier too; the number of staff on each shift is displayed at the top of the rota and highlighted if you are under or over staffed on any shift.

FREEDOM

Free your Managers from that monthly, or weekly, arduous task of creating a new rota every time. All that time and effort can now be applied to their real job. They might still need to spend a few minutes each day inputting changes such as holiday bookings, unless you have the luxury of having a Holiday Included Shift Pattern (HISP) where all the holidays are done for them, or absences and cover arrangements. This often takes 5 to 10 minutes a day, usually reading the requesting emails takes longer, but every rota needs some house-keeping to keep it up to date.

Free your Managers from keeping the 'boss' up to date,

they can pull up the rota themselves and see what is happening without any bother.

SAVING MONEY

How does VisualrotaX save you money. The answer is by always telling you how many staff are on duty and working at all times through the day. The program will tell you how many people are on each shift, who they are, what they are doing and for how long they are working.

“Using VisualrotaX means you can take control of your shift pattern.”

You set the staffing levels in advance for each shift and the computer will show you when they are exceeded. This produces an amazingly large saving and comes from your ability to control exactly how many hours are worked each day by your staff. You can now budget your staff to your workload and keep the hours worked each day in each grade to the budget.

You can see surpluses instantly. You will save money by being able to re-organise holi-

What first-line managers really need to know.

We asked managers the things they would like to see on a rota.

‘How many staff do I have and are there enough for the work I need doing today’.

days and authorised leave so that you never need overtime or agency staff. You can regulate your overall staff numbers to keep overheads to a minimum and you never have to calculate hours worked or staffing numbers ever again. However long the time spent in the past on checking the rota to see if there are enough staff for the workload is now totally eliminated.

NEW PROGRAM

VisualrotaX has been redesigned to work in Microsoft Excel 2007 & 2010 so it is exceptionally user-friendly. This is the first program that can generate your entire duty roster and associated Management Reports instantly and simultaneously. It works faster than you can imagine. Make a change to the duty-roster and it instantly recalculates all the information for a whole year.

Create new shift patterns instantly using the 'fill handle'. Keep your shift workers up to date with their individual calendars. Monitor holidays and absences with the automated charts and reports.

Shift patterns have never been so easy.



Shift Patterns in a Book

C-Desk Technology creates new shift pattern! It may seem obvious that our main activity is creating new shift patterns for our clients, but how do we do it? We start from the premise that if something has worked before, then it is likely to work again in similar circumstances. Hence by starting with an existing solution, we can tailor-fit it to a new, but similar operation. To help us in this, we have a design book of shift patterns and our new book contains 300 of the most popular shift patterns that we use on a regular basis. These are assembled into one ebook

that can be emailed or sent on a CD.

The shift patterns use 4 or 5 Teams (or individuals of course) to provide 24-hour & 365 days of staffing. The book explains, using examples, how the shift patterns can be easily expanded to provide different numbers of staff on shift, such as 2 on Days and 1 on Nights in a regular rotation, or as two distinct groups such as a 'Day Team' and a 'Night Team'.

Each shift pattern covers a complete year of 365 days for all the teams, along with calculations detailing the number of

shifts and the number of hours everyone works in a year.

More details can be found on our website at www.visualrota.co.uk/library.html

The shift patterns are also available as part of the *VisualrotaX* software package, so you can copy them straight into the roster.

Once you have the new shift pattern, our other book *How To Manage Your Shift Pattern: Holidays and Absences*, gives you helpful tools and techniques to ensure your shift pattern runs smoothly.

EYE ON IT

Current Industry Trends

How would you like up to 30 weeks of holiday a year?

Holiday Included Shift Patterns (HISP) are gaining in popularity. Many organisations already have them in place especially in continuous 24/365 operations. A HISP is where everyone takes their holidays in turn all the way through the year.

If you haven't been on a HISP, then you probably cannot visualize the advantages to an employee. In fact, where an organisation uses a HISP already, then any new shift pattern we set up is also a HISP. No one, including employees, wants to return to a system that relies on requests for holidays.

In our Shift Pattern book, we show one HISP with 31 weeks of time off in a year.

This Month's Q&A Technology Tips

Q: How can we calculate the average working hours according to the EU WTD.

A: Iteration: a recalculation based on the results of the previous calculation. The Working Time Regulations force you to iterate the calculations to determine the average number of hours worked in a week. Maybe they didn't realise this and hadn't appreciated that mathematically this is very difficult to do. Our experience is that at least two iterations are required if you want to find the actual hours worked in an average week. As the regulations make clear

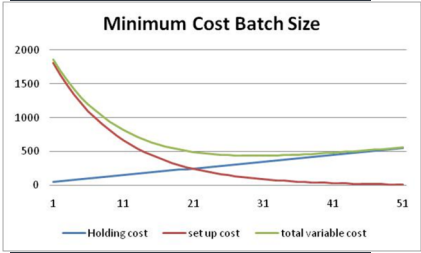


(sic), you have to extend the number of weeks in the reference period by the amount of time taken as holiday and absence. As this time extension will usually include a bit more time taken as holiday or absence, you need to extend the time period by that amount again. As this time extension will..... (I'm sure you get the picture) Hence we end up with a different time period for each individual and for each of their reference periods every time. *VisualrotaX* can calculate this reference period and then calculate the average number of hours worked. In fact, it does this continuously and can alert you to someone exceeding the limit before it is too late to rectify the problem.

SOFTWARE

Monthly Picks

My ipad has a really cool free application iBooks to read books and pdfs. So now I can view my shift pattern on the go with an ipad. Just email the latest copy of the shift pattern in pdf and it's accessible any time any place. I also have the shift pattern books on my ipad to ensure I have all the information at my fingertips literally. I feel like I'm part of the Enterprise's crew.



Professional Development

We build on our experience. By working with many different types of organisations, we can bring to all our jobs, the collective experience of using different solutions in different applications

CDT October 2010

Operational Research

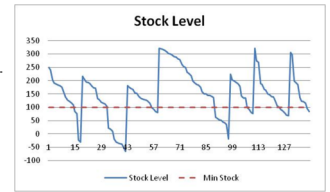
• Optimum Batch Size.

Few industries have the sales to justify continuous production, hence the requirement to opt for Batch Production. The optimum batch size creates a balance between the set-up costs for each batch and the Holding Cost of the batches.

$$Q_i = \sqrt{\frac{2r_i^2 \sum C_{si}}{\sum C_{li} r_i \left(1 - \frac{r_i}{q_i}\right)}}$$

• Inventory Policy

You have an inventory for several reasons. It is a buffer against fluctuations in demand. It provides a quick service to customers. It compensates for fluctuations in production. It stabilizes employment. It is a buffer against equipment failure. It balances out production when machines work at different rates.



However, it is expensive.

• Optimum Operating Efficiency (OEE).

OEE is defined as the product of Equipment Availability, Performance of Equipment and Quality of the Operation.

• Production Scheduling.

Scheduling production of several products through all their operations efficiently is a difficult task. There are several techniques to help this process. These are: Complete Enumeration; Dynamic Programming; Linear Programming; Heuristics. Which one is correct for your organization depends on your particular circumstances.



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