EVALUATING THE IMPACT OF WORKPLACE CHALLENGE, (A GOVERNMENT INITIATIVE) TO MAKE THE LOCAL MANUFACTURING COMPANIES WORLD CLASS AND COMPETITIVE

David Munyai, Mushavhanamadi Khathu
Faculty of Engineering and Built Environment Department of Quality and Operations Management
University of Johannesburg
South Africa
kmushavhanamadi@uj.ac.za , munyaid@gmail.com

Abstract

The need for business to increase the productivity and improve the engagement of the workers in manufacturing companies seems to be overshadowed by the globalization. With so much ease in importing goods than producing them, some businesses cease the whole production processes and focus on being resellers. These in turn harms the employment sector, and have a negative impact in the welfare of a country. This study aims finding the relationship between work place challenge, productivity and competitiveness in South Africa. Data was collected using the quantitative method. The workers attitude towards work was surveyed. Using questionnaires and daily output records, data was used to get the link between the three key words, productivity, WPC and competiveness. The findings shows a mixed picture, some companies did benefit from the implementation of WPC, some shows no change at all, and some just got worse than before they embarked on the WPC. The different outcomes could be attributed to various factors in the manufacturing businesses, like change in management which sometimes means change in strategy, employee's movements and ageing infrastructure in relation to investors' interest in the business changing.

Keywords

Competiveness, Manufacturing, Productivity, South Africa, workplace challenge

1. Introduction

We stand on the brink of an innovative transformation that will on a very basic level modify the way we live, work, and relate to one another. In its scale, scope, and complexity, the change will be not at all like anything mankind has experienced some time recently. We do not however know just how it will unfurl, but one thing is obvious: the reaction to it must be coordinated and comprehensive, including all partners of the worldwide nation, from the open and private segments to the scholarly community and gracious society (Klaus Schwab, 2016), hence businesses cannot afford to operate in ways that are not integrated.

To help local companies stand a fighting chance, the South African government, in cooperation with government institutions like the DTI and the Productivity-SA, has come up with an initiative called the Work Place Challenge (WPC) to help local companies operate at the world class level, simply known as world class manufacturing (WCM). Work place challenge program is a process where the government identifies needing companies that could be turned around to be profitable and help them sustain jobs by taking them through an inclusive training, which follows a systematic approach and sequential steps and training with the sole purpose to improve the wellbeing of its stakeholders by making it more productive and competitive (Productivity-SA). The Work Place Challenge Programme is a combined government programme that offers local businesses assistance in productivity enhancement by providing toolkits, which are management system, goal alignment, cleaning and sanitization, team work, leadership and green productivity toolkits the output of this programme is an improvement in Safety, Quality, Cost reduction, Productivity and Morale. Any successful and effective trade or business understands the significance of efficiency

within the working environment. Being beneficial or efficient can offer assistance the firm increment and utilize the capacity of the human assets it has *(Katraman, 2010*).
Most profitable companies have cheerful and solid workers, which are the premise of an effective organization (Cabanas, E. and Illouz, E., 2019). A work place is comprised of nine pillars as per WCM concept of which are grouped and summarized to be five in Work Place Challenge program, namely, Safety, Quality, Productivity, Cost and Morale. Work place challenge program adopts a phrase that says being good is not good enough in business at the time when the winner takes all, (Zaharee, Lipkie, Mehlman, and Neylon, 2018). This statement is very relevant in business today, especially in the manufacturing businesses.
Manufacturing like anything else has evolved (Cobb, 2015), and has become more challenging for South African companies. In the current global competitive age, it's very important for organization to have manufacturing practice, which is lean, efficient, cost-effective and flexible. It is no longer enough to be counted among the producers of certain goods and services, but how good and efficient you are is what makes you survive. The implementation of productivity enhancement programs, though meant to help companies, however are often met with many other barriers such as lack of coordination, lack of organizational communications, lack of education and training, employee resistance, partial implementation of WCM techniques, lack of employee motivation, lack of management support and appropriate monitoring cited by *Salaheldin (2007).* The resources invested end up not getting the intended results, some businesses and companies are still not seeing the benefits from the government support programs.
The aim of this paper is to investigate the effectiveness of the work place challenge on making local companies world class manufacturing entities (productive and competitive)**.**

1.1 Benefit of the study

The results of this study could be used as an independent opinion on the unbiased view of the effectiveness WPC programme. And help the programme to be more accessible and be introduced to the businesses that needs it most. For South African businesses to recover from the impact of Covid-19, it would require more than just a surface talk by the government, but rather an in-depth collaboration between businesses, the citizens and the government.

1.2 Objectives

The paper will focus on the following four objectives

- To determine the company improvement through productivity (speed), quality, cost, safety and morale
- To determine the level of employee engagement and empowerment through skills acquisition attained through work place challenge
- To determine the employees knowledge and understanding of the world class manufacturing principles and sharing of knowledge among peers and other stakeholders at work
- To investigate the barriers to the success and implementation of work place challenge programme

2. Literature review

A. WORK PLACE CHALLENGE PROGRAM
There are limited independent studies done on the impact of Work Place Challenge program and it poses a limitation on the review of literature with the use of previous research sources. However, there are other productivity enhancement programs that have been done around the world despite the difference in terminology, in countries that are ranking very well in the IMD productivity world ranking statistics. IMD is an International Institute for Management Development, a business education school located Switzerland. It specializes in executive education offering open enrolment programs for senior executives, as well as longer-term educational engagements that are customized for senior executives of a particular company (IMD). Its relationship with WPC is that, the work place challenge stems from the fact that it is aimed at increasing productivity of a country, whereas the IMD provides the barometer for measuring productivity. In South Africa they are known for working hand in hand with Productivity-SA and labour institutions in measuring the productivity of South Africa as a country in comparison with the world. They release a productivity competitiveness statistics annually, with the latest being the IMD competitiveness statistic 2019. Where Singapore rated number one in the world, with Hong Kong following in the second place and USA and Switzerland following on position three and four respectively. South Africa has also affiliated in an economic trade relationship with Brazil, India and China and the coalition is called BRICS. Out of the four countries, china stands in a better position in the world productivity rankings. China ranks on position 16 whereas South Africa ranks at position 56 of which it is a decline from its previous position of 53, and a downward slide that has been happening since 2009. the country of Singapore which sits on top of the table on productivity statistics, has its own productivity improvement program called the Enterprise development grant, The Singapore Enterprise development grant is a business support

scheme that is aimed at helping companies expand their operations by helping them in financial, marketing, which include helping them taking their products to the global markets (enterprisesg.gov.sg). Besides Productivity, and just helping them to gain market share with their EDG also focuses on helping companies with their strategy, turnaround and an overall overhauling of their business systems. With the aim of helping companies produce products that are customer focused. In that way they are able to secure market share. On the other hand the government of Hong Kong came up with the Enhanced Productivity program, which started by challenging the government business entities to increase their productivity by at least 5%, without any additional spending, and the results were remarkable. The productivity increased by a bigger margin (JT Lam, 2018). The Chinese government embarked on a programme where by the year 2025, every consumable goods around the world should be manufactured in china, and the results of that program are showing as early as now (Zenglein and Holzmann 2019)

B. WORLD CLASS MANUFACTURING PRINCIPLES AS BENCH MARKING OF WPC

From the onset, the main objective of the WPC is said to be making the South African companies to be in the level of world class manufacturing standards. For the participating companies to be considered or the programme to be deemed successful in some form, it should satisfy what makes a company world class. World class manufacturing is a collection of concepts, which set standard for production and manufacturing for another organization to follow. Japanese manufacturing is credited with pioneering the concept of world-class manufacturing. The term World Class Manufacturing was presented in 1984 by American industry planners. They have built up a model dependent on the investigation of Japanese, German and American organizations that have accomplished execution levels past the known principles in their area(wikileans.com) .The work place challenge promotes the implementation of world class manufacturing standards by the South African companies. The term world class manufacturing was first publicized by Professor Richard Schonberg in 1986.

World class manufacturing is a multi- driven approach where different procedures and standards are used in one combination or other. WCM may be a comprehensive administration framework designed to improve a company's exhibitions by implementing efficient industrialized processes in dealing with (stock surpluses, generation waste, the complete approach actually relies on quality and efficiency advancement, breakdowns diminish as well as client fulfilment. To total this procedure, the total group should get included and to master all the skills at its disposal, and nowadays more frequently the question get asked, who can be a world class producer? And the reply to that's basic, Getting to be a World class Producer isn't a privilege of the big corporations only, little undertakings needs WCM to assist them develop and imitate the huge businesses, Receiving World Course Fabricating Hones does not require tremendous ventures in Hi Tech machines or hardware or something like that! All that it requires may be an alteration in mind-set. (Foer, F., 2017)

World class Manufacturing (WCM) is a wide-open concept, which sometime have no limits in its scope, and its fluid and dynamic, which can bring a challenge when specific studies has to done on the topic (Petrillo, De Felice, and Zomparelli 2019). TPM is the most widely used term in south Africa, when discussing world class manufacturing principles, but they are both related, and they represent same thing, this goes with the use of terms like lean, and six sigma. There are two criteria that qualifies a company to be classified world class manufacturing, 1) how does the company compare with its competitors, 2) has the company increased its score since last year.

To qualify as world class, a plant had to demonstrate outstanding performance on both productivity and quality measures. Summing up we can state that the term World-Class Manufacturing (WCM) means the pursuance of best practices in manufacturing. In my search for the effectiveness of WPC, for the conclusion that the programme is really giving the intended results, businesses that has undergone the programme must show a general trend of leaning towards meeting or achieving those criteria. Indeed we can define world class manufacturing as a different production processes and organizational strategies which all have flexibility as their primary concern.

C. THE WORK PLACE CHALLENGE FLOW PROCESS

The Workplace Challenge (WPC) programme is implemented on a 24-month period with the aim of encouraging and supporting negotiated workplace change to improve productivity and job sustainability. The founding principle behind the Workplace Challenge Programme is to bring management together with employees, to combine thoughts and ideas for the benefit of the organisation (Productivity-SA). According to Majaja, enterprises that have participated in the WPC programme have received funding of R151 million altogether and had generated more than R1.88 billion in total turnover.(Majaja,N, The DTI, 2018)The Workplace Challenge Programme is managed by Productivity-SA).

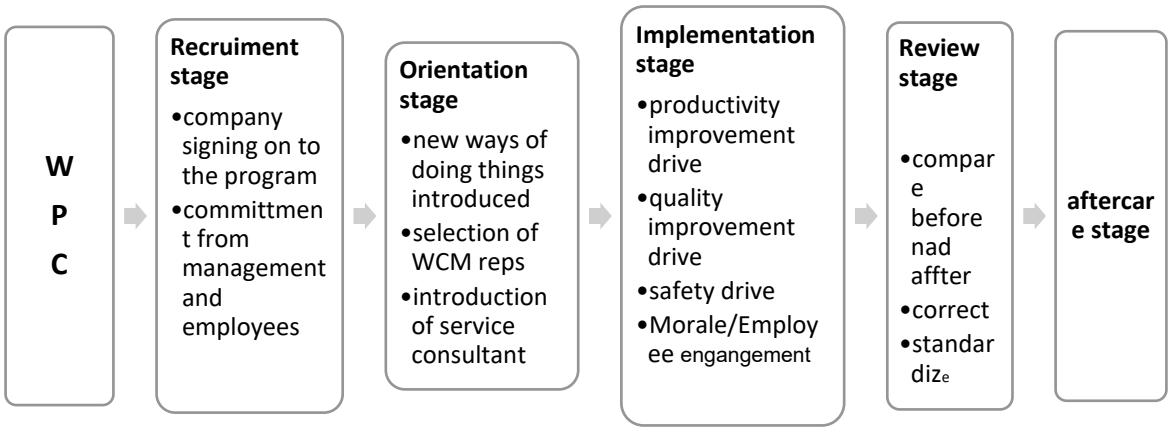

Figure 1 the flow process of the WPC programme. *Source: the DTI*

This model is implemented by getting six to ten companies mostly in the same geographic area at a time (known as a 'cluster'),and is structured into phases: the recruitment and orientation phase, the implementation phase , review stage and the aftercare phase. The companies are recruited to participate in the programme. In the orientation phase, familiarization of employees and managers to new ways of working and provision of opportunities to debate issues. In the implementation phase, representatives at each company, appoints a service provider approved by Productivity-SA (supported by the Change Facilitator, who is a professional in change management and continuous improvement) who is charged with developing a workplace plan for the relevant company and help implement this plan. And in recent times, Service providers are now being replaced by Change Facilitators who are responsible for the workplace planning and implementation of the programme. The "aftercare phase" involves availing on-going support required by programme participants in order to assist the initiative.

This initiative benefits the organization or companies more by providing the training and giving the in-depth understanding to the employees on how the business works and what are the challenges and threats to the business and how to change the situation by simply changing the behaviour (Productivity-SA, 2014). Small and medium enterprises are found to be the major contributors of economy and job creation; hence the government invest a lot of money on getting the companies to go through the programme (Small and Medium Sized Enterprises and Decent and Productive Employment Creation, Report (International Labour Conference, 2015). The expectation is that companies which implement extensive workplace practices would achieve operational performance improvement. Performance outcomes in the form of improvement in staff morale and absenteeism, reduction in cost and waste, increase in quality and delivery time are expected results following a company's participation in the programme. Workplace practices include an improved employee and employer collaboration, training, continuous process improvements, sharing of lessons and best operating practices. This is achieved by promoting and implementing, best operating practices, co-operation and collaboration between employers and workers.

To change the way a business does things, means changing the way its employees and management does things. Hence no new technique or modern productivity improvement scheme can be introduced and used effectively without well-trained and educated personnel at all levels of the national economy. In the long term it is no exaggeration to define productivity as a type of mentality, based on education and culture, which develops the capacity to organise. Thus, education can be seen as a major means of accelerating the development of the workforce and its quality. It can be clearly said that people are the main productivity resource in the long term and are therefore the most important factor. The ultimate goal of the WPC is to actively encourage and support change in the workplace to enable improved company performance, productivity and job sustainability. The ultimate success of the programme is when the company has managed to improve their Safety scores, Quality scores, Cost reduction, Productivity (OEE improvement) and improvement in employee's morale, those 5 KPI's are therefore used to measure the impact of the WPC programme. The comparison done by the other researchers will be reviewed and it would be compared as to what were their outcomes. This is achieved through a process of building worker participation, thereby empowering the workers to upgrade their skills and perform better. Through the sponsorship from its stakeholders, the Workplace Challenge aims to add value to the South African manufacturing sector. The programme promotes an improvement in the main key performance indicators in the manufacturing businesses around South Africa by promoting the involvement of those on the shop-floor in the improvement of company performance from the on-set stage and again focuses on the simultaneous improvement of the main performance key indicators in world class manufacturing

standards. The WPC borrows the TPM or WCM approach to solving the everyday operational challenges in a business. Productivity improvement programmes are based on a series of critical factors and their implementation is to result in the visibility of the following

i. EMPLOYEES AND MANAGEMENT TEAMS

The Employee engagement is an important variable in the success of a business, an engaged employee is behind the success of a business (Pandita and Ray 2018). Everything a business does depends on the actions of the business employees, The WPC support and encourage change in the workplace to enable improved company performance, productivity and job creation, through a process of building worker participation, thereby empowering the workers to upgrade their skills and perform better (productivity-SA)

Through the sponsorship from its stakeholders, the Workplace Challenge aims to add value to the South African manufacturing sector. The programme promotes five characteristics within South African manufacturing companies: the focus taken on shop floor staff involvement on the improvement of company performance from the start-up phase.

D.CHALLENGES OF IMPLEMENTING THE WPC

The labour market and the demographics change challenges the implementation of workplace programmes (casten Ochsen, Michael Kuhn, 2013). The work place challenge too comes with its implementation challenges which companies that want to embark on the programme sometimes have to overcome. Work place challenge programme is time consuming at the implementation stage, as indicated in the report by the DTI, 2018, on challenges faced by the companies on the implementation of WPC. The other aspect is lack of commitment by the programme consultant at times; there are those who don't see it as an outcome based programme, but rather as another government money spending programme.

E. THE DOWNSIDE OF THE WPC PROGRAMME

As per the report by M Gabaocwe, there is lack of accountability on the companies that abandons the programme along the way; there is no recovery plan of the resources invested in the programme. It all means that the money that could have been used on other programmes have been wasted on nothing

F. WORLD CLASS MANUFACTURING PRACTICES ENTRENCHMENT

Best operating practices are standardised (world class manufacturing), normalised and shared among companies that are in the same groups (Petroni, Zammori and Marolla 2017). It also directed at improving the four major indicators of performance, which are safety, quality, speed, cost and morale. Companies get to be understand that in order to compete in the global markets, they need to produce as lean as possible, and their product need to be of highest quality(*M Dixon woods,2012*). Quality should always be improving and working safely should be the basics of each and every employee's duties. The study by Amarjit Singh, Richard J Jimmie Hinze, Coble (1999) found that for work place safety to be a priority in Hong Kong, the government has to embark on collaboration with the private sector to promote the wellbeing of employees at work; nothing should be placed before the safety of people.

3. Methods

The methodology and the design of this study followed the conceptualization that the companies that participated in the work place challenge have got two time lines, the time before they participated in the work place challenge, and the time after participating in the work place challenge. This study followed both the Qualitative and Quantitative methods. This research adopted a descriptive census survey design where the researcher collected data from the sample population, which was then analysed.

4. Data Collection

The data was collected from Operations departments. The researcher was involved in identifying the characteristics of the population and how their perception on the implementation of WPC affects their productivity and they were asked to provide data from their monthly documented records of which it make an average yearly. It is easier for an employee of accompany to remember the closing figures of the previous financial year (KPI's) than month to month or weekly. The researcher further explored possible correlations between perceived factors in working environment and how they affect employees' productivity i.e. looking at the situation the way it was. This covered the information supplied by the companies, from the permission granted by the Productivity-SA, as requested that the employees and

their functional mangers, together with the employee's representatives complete the questionnaires which covers all the qualitative and both quantitative analysis of the report
This paper used the history information as the basis of the comparison, the previous data was used by the respondents as a reference, the questionnaires asked questions in a form of " rate the change in employee management engagement after the implementation of WPC, meaning the respondent went to the previous data of the company which was readily available in the company documents and shared drives, and then the employees compared that data with the current values on the selected KPI's which are used in this study as a measurement of the effectiveness of the WPC on helping the companies change for the better. 50 companies were selected with a mix employees, managers and employee representatives making a joint each which makes the total sum of respondents. 35 questionnaires out of 50 questionnaires were returned duly filled therefore representing 75 percent response.

5. Results and Discussion

A. PROFILE OF THE RESPONDENTS

The respondents were requested to indicate their position under which they had worked in the company and the years they have worked for the company, for employees who have just joined the company, their response was considered gives a picture if whether WPC practices are the new way of doing things, the new employees will have to be on-boarded to the company culture. Though they would not have a full history and understanding of the data. The data was verified for consistency such that employees of the same company, managers and the shop floor should not duplicate and report conflicting numbers on the quantitative part of data collection, and the reason for collecting the information from the management and the shop floor is to also get the understanding of the KPI's by the shop floor personnel. This information aimed at testing workers understanding of business processes. The performance data of the participating companies of before the companies undergone WPC is not included in the calculations. Due to the fact that the participating companies were carefully chosen and the qualifying criteria were that the company should be in distress and not doing well before the programme.

i. Employee experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	6 months	1	2.6	2.9	2.9
	1 year	3	7.9	8.6	11.4
	2 years	13	34.2	37.1	48.6
	3 years	18	47.4	51.4	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 1: Employee experience

Table 1 above indicate the respondents years of service with the company, 51 % of the respondents have been with the company long enough to have witnessed the implementation of WPC programme, and are able to tell the clear picture of the difference between pre-WPC and post wpc.37 % of the respondents also have been with the company long enough.

ii. Employee position in the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Operator	5	13.2	14.3	14.3
	Supervisor	5	13.2	14.3	28.6
	Line manager	7	18.4	20.0	48.6
	Senior manager	15	39.5	42.9	91.4
		3	7.9	8.6	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 2: Employee position

From the table above, 42 % of the respondents are senior managers, it is important to get the feedback on the impact of WPC from a manager's perspective and from all levels of positions in the company.

iii. Employee knowledge of WPC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	1	2.6	2.9	2.9
	Average	2	5.3	5.7	8.6
	Good	9	23.7	25.7	34.3
	Very good	18	47.4	51.4	85.7
	Excellent	5	13.2	14.3	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 3: Employee knowledge of WPC

From the above table, the employees understanding of the WPC is rated, bigger percentages of them rated between an average understandings of the WPC programme to an excellent understanding of the programme which gives the study a validation on that the information is coming from the sources who understand the question at hand.

B. CONCLUSION ON THE RESPONDENT'S PROFILE.
From the three above tables, are giving us profiles of the respondents to the questionnaires (company representatives). The aim of the WPC is to encourage a cooperative working relationship between the company's stakeholders which are management and workers (shop floor), hence it is imperative for the respondents to be of a mix, in positions they held at the company, the years of service in the company which gives an indication of whether the WPC programme was just a once of practice or an entrenched new way of doing things, and it is important to note how much of the knowledge is acquired by the employees who just joined the company.

iv. Safety

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Average	1	2.6	2.9	2.9
	Good	14	36.8	40.0	42.9
	Very good	14	36.8	40.0	82.9
	Excellent	6	15.8	17.1	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 4: Safety

Table 4 above is a representation of the respondent's point of view regarding safety, a combined 80% of the respondents sees the safety awareness drive in the workplace as good and very good, with the 17 % of the respondents seeing it as excellent.

v. Average disabling injuries accidents reported after WPC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	2.6	2.9	2.9
	1	11	28.9	31.4	34.3
	2	10	26.3	28.6	62.9
	3	5	13.2	14.3	77.1

	4	4	10.5	11.4	88.6
	5	3	7.9	8.6	97.1
	6	1	2.6	2.9	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 5: Average disabling injuries accidents reported after WPC

In the table above, indication that 31% of the companies of the responding employees companies have an average of 1 disabling injuries , and again shows that the accidents average is 2 for 28% of the responding employees companies.

vi. Incidents reporting

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-10	3	8.8	8.8	8.8
	10-15	8	23.5	23.5	32.4
	15-20	13	38.2	38.2	70.6
	20-25	9	26.5	26.5	97.1
	above 25	1	2.9	2.9	100.0
	Total	34	100.0	100.0	

in the above table , indicates that 38,2% of the responding employees responded that the incidents reporting by employee has improved to 15 -20 incidents per month, and 2,9 % of the responding employees reported that the incident reporting per month has improved to above 25 incidents. Which is a good improvement in general for all, the participating companies, incident reporting is regarded as something that is inversely proportional to accidents, so the more employees report incidents the safer the environment becomes.

vii. Quality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	98% and above	14	36.8	40.0	40.0
	Below 98%	21	55.3	60.0	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 6 Quality improvement after WPC

Table above illustrate the current year quality scores of the companies, and just above 40% of the participating companies have acceptable scores of 98%. The impact of the WPC when it comes to quality awareness did filter enough to the shop floor on some companies. Whereas on some businesses are still not producing quality product first time 60 % of them which is a higher risk.

viii. Average monthly customer complaints after WPC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	2.6	2.9	2.9
	3	2	5.3	5.7	8.6
	4	7	18.4	20.0	28.6
	5	6	15.8	17.1	45.7
	6	2	5.3	5.7	51.4
	7	2	5.3	5.7	57.1
	8	5	13.2	14.3	71.4

	9	2	5.3	5.7	77.1
	10	1	2.6	2.9	80.0
	11	3	7.9	8.6	88.6
	12	2	5.3	5.7	94.3
	13	1	2.6	2.9	97.1
	14	1	2.6	2.9	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 7: Average monthly customer complaints after WPC

Table above show the average customer complaints, with 20 % of the businesses having an acceptable number in customer complaints of 4, and the smaller percentage are currently sitting between 13 and 14 of they are a minority compared to the companies that are doing better.

ix. Productivity (OEE)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-10%	18	47.4	52.9	52.9
	10-15%	11	28.9	32.4	85.3
	15-20%	3	7.9	8.8	94.1
	20-25%	2	5.3	5.9	100.0
	Total	34	89.5	100.0	
Missing	System	4	10.5		
Total		38	100.0		

Table 8 Productivity improvement after WPC

From the Table above, it can be seen that 52 % of companies improved OEE by up to 10 percent and just above 30% of the companies improved OEE by up to 15 percent. Just above 8 percent of the companies that participated in WPC improved OEE by 20 %, whereas the less than 6 percent improve by up to 25 percent. The overall picture is that there is an improvement in OEE, which gives the indication that the interventions of WPC have impacted the performance of most of the companies.

x. Schedule compliance after WPC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60	13	34.2	37.1	37.1
	70	4	10.5	11.4	48.6
	80	9	23.7	25.7	74.3
	90	8	21.1	22.9	97.1
	Above 90	1	2.6	2.9	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 9: Schedule compliance after WPC

Table above shows the percentage compliance to schedule by companies after WPC, and it can be seen that 25.7% of the companies have the compliance to schedule of up to 80% and 22.9% of the companies have the compliance to schedule of up to 90%.

xi. Cost reduction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	2.6	2.9	2.9
	0%	6	15.8	17.1	20.0
	5%	17	44.7	48.6	68.6
	7%	8	21.1	22.9	91.4
	10%	3	7.9	8.6	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 10: Downtime percentage reduction after WPC

Table above shows that 48 % of the responding companies have seen a decrease of 5 % in downtime, and 17% of companies have seen no decrease downtime. The bigger majority of the companies have seen a decrease, which is a promising improvement.

xii. Rejection rate average after WPC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5%	23	60.5	65.7	65.7
	10%	12	31.6	34.3	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 11 Rejection rate average after WPC

Table above illustrate the improvement in rejection rate, a bigger percentage of the companies have seen a rejection rate decrease of about 5%, and 34% of the companies have seen a decrease of up to 10 % which is a better improvement for the companies. It's a good saving for businesses as they don't have to do recalls, meaning the WPC challenge has impacted on the improvement of rejection rate

xiii. Reliability of maintenance after WPC

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	1	2.6	2.9	2.9
	Average	14	36.8	41.2	44.1
	Good	12	31.6	35.3	79.4
	Very good	5	13.2	14.7	94.1
	Excellent	2	5.3	5.9	100.0
	Total	34	89.5	100.0	
Missing	System	4	10.5		
Total		38	100.0		

Table 12 Reliability of maintenance after WPC

The table above shows the respondents attitude towards the reliability of the company's maintenance system after the work place challenge programme, 41 % believe that the reliability is just average and 35 %of the respondents believe that the maintenance system is very reliable and 5.9 % of the respondents believe that the maintenance system in their companies reliability is excellent.

xiv. Morale improvement

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	2%	14	36.8	40.0	40.0
	5%	18	47.4	51.4	91.4
	7%	3	7.9	8.6	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 13 Decrease in Absenteeism after WPC

Table above indicates the percentage of companies that have seen an improvement in absenteeism, 36 % of the companies a have seen a decrease in their absenteeism of 2 % which is a good indication also on the improvement of morale as a result of WPC program. 47% of companies have seen a decrease around 5% in absenteeism. In general all companies have seen an improvement in absenteeism rate.

xv. Multi skills after WPC training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Poor	2	5.3	5.7	5.7
	Average	14	36.8	40.0	45.7
	Good	15	39.5	42.9	88.6
	Excellent	4	10.5	11.4	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 14 Multi skills after WPC training

On the multi skilling of the employees, the 42 % of the responding employees believe that there is a good drive to get employees to be multi skilled and 11.4 % believe the drive is excellent.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	81.6	88.6	88.6
	No	4	10.5	11.4	100.0
	Total	35	92.1	100.0	
Missing	System	3	7.9		
Total		38	100.0		

Table 15 Employees engagement after WPC

In the table above, indicates that 88.2% of the responding employees agree that the management employee engagement is happening, and 11.4% of the responding employees feels that the engagement between high level management is still not happening.

6. Discussion of the results and conclusion

From the analysis of the results on the tables above, a batch mix of respondents from all levels of company hierarchies, and a mix of years of service from 6 months to 3 years and above, the respondents gave their perceived honest feelings on the change, positive or negative on the ways companies are doing things after undergoing the WPC programme.
The majority of the respondents have been with the companies for 3 years and above and again the majority of the respondents are senior managers at 51%. They are believed to have the good understanding of the work place challenge programme which is a good indication of the reliability of the feedback.

A. SAFETY IMPROVEMENT

Using the safety awareness drive which 80% of the respondents believes is happening, disabling accident reported over a period of time and the number of incidents reported monthly gives a positive picture on the improvement on safety. The very low numbers on disabling injuries on the majority of the companies and the high number of incidents

reported monthly gives a positive outlook on the attitude of the company towards safety. Which is an improvement in the safety KPI, here from the statistic we can say that the WPC has an impact on the company's attitude towards safe working environment.

B. QUALITY IMPROVEMENT.

Just 40% of the companies have 98% percent quality scores, of which 98% is the minimum standard acceptable for companies that are to compete on a global market, it is not easy to do damage control to an oversees customer if the product he bought is of low quality.so the fact that 6% of the responding companies are still struggling with quality issues is not showing the positive impact of WPC on that KPI. The companies still got the majority of then having averages of customer complaints of above 4.

C. PRODUCTIVITY

Most companies have seen an improvement of up to 10% on the OEE scores, and the encouraging issue is that most if not all of the companies are showing an improvement, and the measurement of WCM in a company is continuous improvement in everything they do.

The compliance to schedule however is still lacking on most of the companies with the majority sitting at 60%, company's need to be flexible in change overs and producing to plan and demand so that the JIT could be practiced if they are succeed.

D. COST REDUCTION

The majority of companies have seen decrease in downtime, at least 48 % of them, and 65% of the responding companies have seen a decrease of rejection rate by up to 5%, so on the cost reduction KPI, the WPC programme has impacted positively

E. MORALE IMPROVEMENT

Morale improvement was measured by a decrease in absenteeism and an improvement on management employee engagement is a positive sign of the improvement on moral of the employees in a company, the multi skilling also is a positive sign of the company's investing on its employees.

The responding company's representatives responded that they see the improvement of engagement between the employees and management and that they see the efforts the company is doing to multiskilling the employees.

7. Conclusion and Recommendations

The aim of the study was to determine to determine the company improvement through productivity (speed), quality, cost, safety and morale, this part of the study has been fulfilled and there is an effect on the implementation of WPC by a company, some companies are seeing an improvement of some of the KPI's as explained above in the analysis of KPI individually and the second part of the objectives was to determine the level of employee engagement and empowerment through skills acquisition attained through work place challenge, this part also has been satisfied, the employees engagement has been determined through the morale improvement and multiskilling of employees, though the results shows a gap witch will be part of the recommendations, the impact is measurable.

The third objective of the study was to determine the employee's knowledge and understanding of the world class manufacturing principles and sharing of knowledge among peers and other stakeholders at work, this also was proved by the involvement of employees who are as new to the businesses as 6 months being part of the programme and them showing some understanding of the WPC and WCM principles, which they learned from the fellow employees.

The fourth objective was to investigate the barriers to the success and implementation of work place challenge programme, and the barriers were stipulated in the recommendations in detail, the lack of continuity and consistency caused by the ever-changing middle management personnel and the other aspect of the WPC that can cause lack of progress is lack of commitment and unprofessionalism from the programme consultant, there are companies that did not finish the programme because the consultant just abandoned them

The productivity has improved in all the companies, even though by a very small margin, one can say that the trends are pointing at the right direction, there's an undeniable change in the companies output rate, whereas on the quality part the improvement is not visible or evident enough, some companies have actually let things slide for the worst when it comes to quality standards. On the cost part, there has been a notable improvement which shows that companies are reducing cost after undergoing the work place challenge, and the bigger number of the responding employees saying that there has been a change or improvement in employee management engagement shows that the WPC intervention has impacted the participating companies

it cannot be rules out that the Work place challenge has a positive impact and its effective, what needs to be studied further is how effective by using quantitative variables . the research question on this thesis was the impact of work place programme in making south African companies world class manufacturing entities, and the indicators were the

change in five selected pillars which are comprised of five major KPI's that could be measured and again of which the respondent could with evidence respond that they see an improvement or there is no improvement by just comparing the previous numbers, before and after. Simple measurement of the daily employee activities impact the business in a short and long run, the work place challenge meant to change the ways in which the employees, management carry their day to day duties, remove the no value adding aspects and focus on what adds value to the customer.

A thorough study needs to be done where there is an intensive analysis of the participating companies or businesses on the work place challenge, where there will be a deep and structured recording of all the KPI's of the businesses before commencement of the programme, and the results needs to be communicated well with all the relevant stakeholders and be uses as a bench marking spot of where the business was a s compared to the new target of where the business wants to be. That way it would be easier to get a quantitative, proven analysis which will show that the investment done on the Work place challenge is not wasted resources.

The introduction of work place challenge by the government is a good concept, it is aimed at improving the wellbeing of local companies especially the SME"s. from the literature review it could be seen that other countries that are embarking productivity enhancement programmes, enterprise development gran of Singapore, the drive goes beyond just increasing the numbers internally, but also to build the company's representation outside its walls.

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