

THE LEADERSHIP CHALLENGES ENGINEERS EXPERIENCE UPON ENTERING LEADERSHIP ROLE IN MOTOR INDUSTRY WITHIN SOUTH AFRICA

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Abstract

The aim of the paper was to investigate the challenges engineers experience upon entering leadership role in motor industry within South Africa (SA). Many studies have been conducted on leadership but none reveals the challenges upon entering leadership role especially on engineers within SA. The adopted methodology was a mixed method, which separate the population into two groups, those who participated in qualitative and those in quantitative. A questionnaire was constructed and self administered to 132 engineers and interview schedule with questions aligned to the aim of the paper was formulated before meetings of seven participants. Both instruments were written in English, a questionnaire took 10 minutes to complete, and interviews took 20 minutes. The study reveals that coaching teams, dealing with criticism from teams, to take ownership communication with teams and communicating effectively across teams were the major challenges for engineers in upon entering leadership role in the motor industry. The paper recommends that as part of development, engineer have needs to rotate among different business functions for not less than two years, which will give them enough practical and exposure and understanding the business functional.

Keywords: Leadership, engineers, Motor industry, South Africa, challenges.

Introduction

The South African car industry is tormented with various competitiveness challenges. These have been broadly documented in previous studies (Barnes, Black, and Techakanont 2017). Due to other competitors and import of less expensive vehicles and parts, the industry becomes so competitive and difficult to be sustainable. The aim of the paper was to understand the leadership challenges engineers experience upon entering leadership role in motor industry within South Africa. The corporate world in Asia nowadays is or maybe a combination of the Western and Asian standards of leadership approaches, in some cases more intensely impacted by the social dimension escalated in one society than another. Much of the leadership and behavioural research in organizations in China are illustrated by leader-led behaviours, and less of a bottom up approach of examining followers driven behaviours, while behaviours in leadership are for the most part considered within the connections between organizations and employees. Chen and Farh (2010), argues that in China transformation leadership from the West would have a convinced mark of acceptance because of the relation amongst the Chinese leader's sensitive capability of using empathy or generosity. Transformational leadership moreover appeared to adjust well in environments of R&D centered of development, as information sharing and transparency was empowered, while within the exceptionally collectivist society of Japan, where decision-making is based on agreement mostly, transformation leadership design was an active-proponent of the culture (Long, Huang and Lau 2012). However, researchers that have conducted studies in Chinese leadership personalities approve that they are special kind for its additional personalities of paternalistic nature. The paternalistic characteristic of leadership was also originated in numerous other cultures that have adopted the Confucius element as Japan, South Korea, Malaysia together with the Chinese and the overseas Chinese societies around Asia (Liu, 2014). The paper will assist the motor manufacturing industry to understand engineer's challenges and perception on leader role in South Africa and other countries.

Literature review

Leadership challenges in South Africa automotive industry

It is imperative to understand what sets the South African business scene apart from other newly developed and developing nations. As proposed by the State President, this country may be a country of two countries in one, with a little portion of it characteristic of being in process to be developed and the foremost part a developing nation. Because of its unavoidable contribution to the country, and effect on manufacturing, the automotive industry is regularly called 'the industry of industries'. It is one of the biggest and most advanced scale

businesses, in regard of yield levels, direct and indirect employment, management practices and manufacturing benchmarks. Boundaries to entry within the segment are high, with greatly demanding specialized measures running all through the automotive value chain from assembly through the different stages of component manufacture (Barnes and Morris, 2008).

Automotive industry is a furiously aggressive trade around the world, organizational leaders endeavour to pick up competitive advantages within the commercial center through the utilize of their companies' distinctive center competencies. In most newly developed nations, businesses operation is under complicated and controlled environmental regulations. Subsequently, the key assignment for organizational leaders is to make a particular way ahead, utilizing center competencies and assets at their disposal against the foundation and impact of the environment (Taneja et al., 2012). Furthermore, one of the world's biggest automotive organization was confronted with few internal challenges the organization as well as within the vehicle industry and its environment. The most noteworthy challenge that is influencing the organization was its reputation due to major recall on one of the vehicle. The biggest challenge for the organization executive leadership was to bring back the enthusiastic, reliable and draws in clients.

The company that was known is for its best quality vehicles, it will take some time for leaders to re-establish its reputation because of this recall. Subsequently, leaders must modify their center to shut specialist and control and emphasize neighbourhood markets in arrange to amend the defects (Taneja et al., 2012). Deflorin and Scherrer-Rathje (2012), argues that automotive leaders confront up with challenges in building up and executing a organizational culture that will underpins kaizen and continuous changes in tending to issue tackling utilizing lean standards. The main objective for leaders is keep advancing the culture of problem-solving ability applying learn principle. Problem-solving focuses on one of the biggest objectives in lean production, to eradicate the root causes of an issue and empower employees to start penetrating for these causes, the company must establish a culture that supports continuous improvement. Challenges encountered by the South African automotive leadership and value chain, firstly, leaders need to design business models to respond to volatility market changes. To understand the original business opportunity is South Africa and fully utilize the market potential by ensuring that leaders have strategy to respond to international disruptors, how to deal with freely changing customers and to respond to changes in marketing trends.

Some of the international disruptors within the automotive industry are independent driving vehicles by the necessity for more advanced and safety but yet the market acceptability for automation and self-driven in South Africa remain very skeptical, alternative impulsion which may be introducing of hybrid electrical vehicles which will a great impact on cost and government intensives (Tolmay and Badenhorst-Weiss, 2015). Secondly, top leaders of the organization must ensure the optimization of regional integration. A greatest challenge facing automotive leaders is to determine and penetrate Africa's business potential at same time need to consider that the economic growth is linked to political and stability in African countries. Leaders need to strive to secure economic growth while competing with import of less price vehicles and parts from Asia countries like China, India and Thailand (Tolmay and Badenhorst-Weiss, 2015).

According to Kenna and Poole (2017) Asia is the world's biggest continent, both in terms of land and human population, consisting of roughly 30% of the world's total land and more than 60% of the world's total populace. Over the last 30 years, a few Asian nations have increased their rank within the worldwide financial commercial center and have taken on a more prominent role in world issues. In reality, four of the joined together states' top ten exchanging accomplices are found in Asia: China, Japan, South Korea, and Saudi Arabia (Kenna and Poole, 2017). Thirdly, establish best infrastructure as the organization enabler, this challenge is linked to the increasing traffic overcrowding within our roads will retard growth of motorization and the outline of new autonomous vehicles in South Africa. Fourthly, leaders ensure the company compete globally and discovery the accurate balance in a low-volume marketplace in terms of new technology, lack of skills, global sourcing and access to community. Fifth, is to develop a comprehensive value chain for the company by ensuring a good relationship between government, labour and auto industry (Tolmay and Badenhorst-Weiss, 2015).

Challenges in leadership developments for engineers

Whereas numerous organizations pay consideration to the improvement of key administrative ability, they frequently ignore the improvement of their specialized pioneers. Leadership at the group and venture levels is as basic as administration exercises at the program and business-unit levels (Vieth and Smith, 2008). A major

challenge facing smaller companies is the ability to sustain a comprehensive technical leadership development program. The resource investment required is difficult to justify with what is typically a small number of candidates (Vieth & Smith, 2008). Some of the leadership development challenges outcome, this challenge weaken authority learning and improvement activities, and these issues stream from profoundly held feelings strengthened by so-called best hones: the assessment issue, the definition issue, the individual's issue. Numerous of the individuals who go to leadership development programs are drawn to high-status and high-paying leadership positions, but they have small ability for leading a group. The instructional method issue, most leadership programs are instructed in inappropriate ways. The basis issue and leadership development programs are frequently propelled for questionable reasons (Hogan et al., 2003).

A mixed return on venture employee engagement could be a core pointer of leadership brilliance. However, according to a Gallup report (October 2013), there are almost twice as numerous "actively disengaged" specialists within the world as there are "engaged" specialists who love their occupations (O'Boyle and Harter, 2013). Kivland and King (2015) Stipulate six challenges in leadership development may lead to effectiveness development. Firstly, corporations require measures for their possess execution, but do not require measures on the permanency of their leadership trainings. Secondly, the degree to which modern aptitudes or behaviour are fortified by management is specifically relative to the selection of these behaviours into the culture. Organizations frequently accept that the degree of workers support and commitment to training is specifically related to the amount of training money spent or how boisterous the leadership group champions a particular training program. Employees frequently see this approach as a wrong and shallow commitment from the leadership group.

Thirdly, organisational training executives are not given numerous choices past Level 1 training particularly since there is little pressure or have to be request a change. Fourthly, companies that plan leadership development programs adjusted with long-term business technique grasp the marathon approach. A marathon approach to leadership development incorporates incremental training in groups that train together over a period. Fifth, most leadership development courses are planned with no post-audit measures nor is management requesting to review these courses. Lastly, the nonappearance of pre-screening to degree the compatibility of the learner to the training or the preparing to the culture.

Methodology

The research methodology used for this study was a mixed method study as the researcher wish to withdraw fact as well as individual perception on the study topic. Mixed method research incorporates both qualitative (open ended) and quantitative (closed ended) research in a single study in response to the research questions. The researcher has chosen 200 engineers from motor manufacturing industries in South Africa as study population. The researcher has chosen to apply probability-sampling technique for quantitative study approach and chosen to use non-probability technique for qualitative study approach. The population of 200 engineers will be considered for the study, with sample size of 132 participants. The study adopted both questionnaires and interviews. In this study, emails were sent to six leaders to brief about the study topic and request to schedule interview meeting. The interviews took 35 to 45 minutes to finish. Based on the location of the engineers as the results all questionnaires were emailed.

Results

Analysis of data was an inclusive stage during research study of attempting to make logic of word-based information by applying data analysis systems. Qualitative data was read couple of times in order to understand better the respondent's perspectives. Then the researcher will identify common themes and patterns. Data collected from questionnaires was summarized and analyzed with a assistant from Statistical Packaging for Social science (SPSS) to understand frequency and descriptive.

Table 1.1 Genders

	Frequency	Percent	Valid Percent	Cumulative Percent
Female	29	33,0	33,0	33,0
Male	59	67,0	67,0	100,0
Total	88	100,0	100,0	

Valid

Table 1.1 indicates that male participants dominated by 67% to 33% of female participants.

Table 1.2: Age

	Frequency	Percent	Valid Percent	Cumulative Percent
20-25 years	7	8,0	8,0	8,0
26-30 years	42	47,7	47,7	55,7
31-40 years	34	38,6	38,6	94,3
41-45 years	3	3,4	3,4	97,7
Above 45 years	2	2,3	2,3	100,0
Valid Total	88	100,0	100,0	

Table 1.2 indicate that the majority of engineers are between the ages 26-30 years, thus represent a younger staff of engineers.

Table 1.3: Highest Qualification

	Frequency	Percent	Valid Percent	Cumulative Percent
Diploma	32	36,4	36,4	36,4
Bachelor degree level (B Tech)	51	58,0	58,0	94,3
Bachelor of Science level (BSc)	2	2,3	2,3	96,6
Postgraduate	3	3,4	3,4	100,0
Valid Total	88	100,0	100,0	

Table 1.3 indicates that most engineers have progressed successfully from diploma level to bachelor degree level.

Table 1.4: Current position

	Frequency	Percent	Valid Percent	Cumulative Percent
Engineering Manager	17	19,3	19,3	19,3
Principal Engineer	61	69,3	69,3	88,6
Engineering Specialists	10	11,4	11,4	100,0
Valid Total	88	100,0	100,0	

Table 1.4 indicates that principal engineers with 69.3% dominate current position composition of participants.

1.5 Presentation of results: inferential statistics

T-Test: Gender and leadership challenges engineers' experience

Independent Samples Test		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	T	Df	p-value	Mean Difference	Std. Error Difference	Lower	Upper
B1	Equal variances assumed	.004	.950	-.608	86	.545	-.12916	.21259	-.55179	.29346
	Equal variances not assumed			-.606	55.450	.547	-.12916	.21308	-.55612	.29779
B2	Equal variances assumed	3.775	.055	-1.549	86	.125	-.35301	.22790	-.80607	.10005
	Equal variances not assumed			-1.427	45.526	.160	-.35301	.24739	-.85112	.14510
B3	Equal variances assumed	1.272	.262	-1.610	86	.111	-.33606	.20878	-.75110	.07897
	Equal variances not assumed			-1.538	49.702	.130	-.33606	.21847	-.77493	.10281
B4	Equal variances assumed	.594	.443	-.656	86	.513	-.15020	.22882	-.60508	.30468
	Equal variances not assumed			-.675	60.089	.502	-.15020	.22246	-.59518	.29477

$P < 0.05$

Table 1.5 indicates that during the independent samples test, Levene's Test Equality of Variances was conducted to test the variance of two groups for standard deviation. The level of significant is set to less than 0.05. The results indicate that all four variables have significantly higher than the set point of 0.05 on the Levene's test, (0.950, 0.55, 0.262, and 0.443). Hence, hypotheses 1 may be accepted in terms of gender and leadership challenges engineers experience in transition to leadership role while assuming equal variances and $p > 0.05$.

Table 1.6 ANOVA: age group and leadership challenges

ANOVA		Sum of Squares	Df	Mean Square	F	p-value
B1	Between Groups	3.039	4	.760	.866	.488
	Within Groups	72.859	83	.878		
	Total	75.898	87			
B2	Between Groups	3.462	4	.865	.837	.505
	Within Groups	85.811	83	1.034		
	Total	89.273	87			
B3	Between Groups	2.878	4	.719	.827	.512
	Within Groups	72.202	83	.870		
	Total	75.080	87			
B4	Between Groups	1.300	4	.325	.311	.870
	Within Groups	86.689	83	1.044		
	Total	87.989	87			

Key: Df – degrees of freedom, F – frequency, Sig- significance (p value)

Table 1.6 indicates that engineers in numerous age groups do not differ in perception regarding the leadership challenges engineers experience in transition to leadership role (coaching teams, deals with pressure from teams, deal with criticism and communication) respectively. Considering the set point of significant to 0.05, the result of

ANOVAs test above indicates that $f > 0.05$ and level of significant is greater than 0.05 in all groups respectively. Hence, there is no significant in variances and the researcher cannot reject the null.

Table 1.7 ANOVA: Level of qualifications and leadership challenges

ANOVA						
		Sum of Squares	Df	Mean Square	F	p-value
B1	Between Groups	1.973	3	.658	.747	.527
	Within Groups	73.925	84	.880		
	Total	75.898	87			
B2	Between Groups	3.751	3	1.250	1.228	.305
	Within Groups	85.522	84	1.018		
	Total	89.273	87			
B3	Between Groups	1.185	3	.395	.449	.719
	Within Groups	73.895	84	.880		
	Total	75.080	87			
B4	Between Groups	2.136	3	.712	.697	.557
	Within Groups	85.853	84	1.022		
	Total	87.989	87			

Key: Df – degrees of freedom, F – frequency, Sig- significance (p value)

Table 1.7 indicates that engineers in numerous levels of qualification do not differ in perception regarding the leadership challenges engineers experience in transition to leadership role (coaching teams, deals with pressure from teams, deal with criticism and communication) respectively. Level of qualification does not influence engineers' perceptions regarding to leadership challenges. Considering that, the level of significant is greater than 0.05 in all groups respectively.

Table 1.8 ANOVA: Designation and leadership challenges

ANOVA						
		Sum of Squares	Df	Mean Square	F	p-value
B1	Between Groups	1.291	2	.646	.736	.482
	Within Groups	74.606	85	.878		
	Total	75.898	87			
B2	Between Groups	1.167	2	.583	.563	.572
	Within Groups	88.106	85	1.037		
	Total	89.273	87			
B3	Between Groups	2.880	2	1.440	1.695	.190
	Within Groups	72.200	85	.849		
	Total	75.080	87			
B4	Between Groups	3.961	2	1.981	2.003	.141
	Within Groups	84.027	85	.989		
	Total	87.989	87			

Key: Df – degrees of freedom, F – frequency, Sig- significance (p value)

Table 1.8 indicates that engineers in varying in designations do not differ in perception regarding the leadership challenges engineers experience in transition to leadership role (coaching teams, deals with pressure from teams, deal with criticism and communication) respectively. Engineers' designation does not affect engineers' perceptions regarding to leadership challenges.

Discussion

The paper reveals that the coaching teams is one of the challenges engineers experience on leadership in the motor manufacturing industry in SA. Nowadays, the concept leadership is extremely important to be allied with development to ensure the future the organisations in good leadership. Organisations who demonstrate less interest in leadership development are most possible to experience challenges and problems in handling the modern changes in the business environment, which may lead the leaders to respond irresponsibly, not able to cope with competition (Glamuzina, 2015). With the thrust toward equal rights and equal business openings, one would anticipate to see a reasonable number of women entering overwhelmingly male dominated professions. The number of young ladies graduating from engineering programs is littler than that of men (Griffin et al.,

2015). Engineering proceeds to be a man's world. The paper reveals that criticism from teams is also a challenge experience by engineers on leadership in the motor manufacturing industry in SA. Leaders within private industries, and government industries have all called on undergraduate engineering training programs to assist prepare the next era of engineers to be competent of serving in leadership position (Knight and Novoselich, 2017).

Ladies proceed to be underrepresented within the field of engineering in spite of the understanding that females are fair as able of accomplishing victory in Science, Technology, Engineering, and Mathematics STEM careers (Sinkele and Mupinga, 2011). The paper also reveals that the pressure experience by engineers to proceed to leadership in the motor manufacturing industry in SA. The effective leader will eliminate barriers to victory. Which means coaching and counselling, not criticizing but to offer an assistance individual through the unavoidable difficult patches. Empowering, coaching, and counselling moreover incorporate choosing who to tutor and coach and to what degree and moving individuals to other assignments when it is evident that they are not appropriate for their current duties and balancing, these are frequently difficult choices that the leader must take (Snee and Hoerl, 2012).

Conclusion and recommendation

The paper reveals that the leadership challenges engineers experience upon entering leadership role in the motor industries were coaching of teams, to deal with criticism from teams and to take ownership as well as to communicate effectively across teams. Other paper recommends that as part of development, engineer have needs to rotate among different business functions for not less than two years, which will give them enough practical and exposure and understanding the business functional. Based on the one on one interview with leaders of the organisation, it reveals that leaders support well-defined and clear job rotation program to equip engineers with the variety of skills required in the leadership role. In a simple version, job rotation program will enable engineers to acquire more skills and prepare them for leadership position. Various organisations recognize that employees are the most valuable resource any association needs which improvement of the assets is basic for competitive advantage (Bartlett and Ghoshal, 2002). Varies challenges facing engineers in the leadership role and the organisations are failing to discover these challenges and implement effective leadership development mainly designed to accommodate engineers with the motor manufacturing industry. The paper recommends the motor industry to align the human resources policies to leadership development of engineers.

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