

# **Editorial: South African Research in Management, Informatics and Governance in a 21<sup>st</sup> Century Hyper Connected World**

**Rembrandt Klopper**

*Alternation* Special Edition 22,1 of 2015 forms a continuation of on-going research in the fields of Management, Business Leadership, Informatics, and Governance at a number of South African universities. This issue contains nineteen contributions from authors in South Africa, Britain and New Zealand. Contributions vary from the nature of transformational leadership, integrity in research and organisational management, and the ubiquitous role of informatics in the present-day digitally hyper-connected world in which we all now live. In one way or another, these nineteen contributions all focus on, relate to, or depend on Informatics as organisational management and communication backbone.

The image of the front page of this is a blend of a painting in my possession, painted by my former colleague and friend Jan Zaal who is now deceased, which I photographed and which I overlaid with a simulated three-dimensional image of digital information code. Jan Zaal's painting is of a display window of the former Stuttafords in West Street Durban. Having witnessed the various phases that the painting went through, and having had privilege of discussing them with Jan Zaal, it is worth mentioning that he took over 700 photographs of the display window at various times of the day in different seasons over a nine month period and that his painting is a composite image, capturing the essential spirit of that display window.

In order to appreciate the extent to which Informatics has transformed 21<sup>st</sup> Century life it is useful to remember how communication has changed over the past century and a half. Then communication and business transactions – including fistfights and shootouts – were all conducted on an interpersonal basis, at close proximity. Today communication and transactions more often than not have become remote, distributed and indirect, mediated by layer upon layer of artificial intelligence (AI). What has happened between then and now to transform our way of life so radically?

## **Communication Back Then**

Most people over 40 remember a time when cordial personal communication meant chatting to a neighbour over the backyard fence, occasionally receiving a letter delivered at home by the postman, or writing a letter or a festive card in one's own handwriting, sealing it in an envelope, licking a stamp and putting it on the envelope, before posting it in a nearby post box where it would be lifted (collected) at some set hour every day.

A little later on personal communication also entailed on special occasions, going to the post office to fill in a form (in long-hand, when one was required to only use UPPERCASE print script, devoid of any punctuation), carefully counting and recounting each word in the terse text because there was a common misconception in those days that one paid by the word when sending a telegram. If one needed to demarcate the boundary between two sentences on a telegram for clarity's sake, you had to insert the word "STOP" in the appropriate places in the message to indicate a full stop and pay for each STOP. Revising a telegram usually meant trying to reword it as economically as possible to eliminate as many STOPS as possible and still have the message make sense. After being satisfied that one's efforts at word economy would not lead to absurd interpretations by the recipient - that s/he would more or less get out of the text the same message that you tried to put into it, one joined a queue and waited one's turn; eventually handing your all-uppercase handwritten message to the official behind the counter who ignored the number of words, and calculated the cost of the message eight-bits per-byte style because the average English word was deemed to consist of eight letters, recalculating several times before eventually announcing the cost, after which you had to count out the requisite number of coins as payment.

With everyone nowadays carrying a mobile phone for instantaneous, ubiquitous personal communication, and some people even owning two or more phones, only South Africans in their sixties may remember the time when even in towns there were communal phone lines known as party lines, requiring of the prospective caller to first listen whether or not there was another call in progress before cranking the phone's handle to give the number of the recipient to operator on duty who ever so often would cut into one's conversation in progress to announce the duration of the call. Only some people may also remember that in many neighbourhoods there would

only one telephone per block, installed in a particular home with occupants in good social standing on condition that neighbours on the block would also have access to the phone for emergencies. In practice it required of everyone in the neighbourhood to remain on good terms with the telephone subscriber who had to put up with neighbours wanting to make calls.

## **When Cash was King**

When I was ten years old my mother on some afternoon just after the end of the month when she had been paid, would hand me her endorsed paycheque, along with a signed note to the bank teller that indicated how much of the cheque had to be deposited into her savings account, and how much had to be handed back to me in cash to conclude the rest of the family business for the month.

I then got on my bike, cycled to the bank, joined a queue and waited for the teller to record particulars about the cheque in a ledger, before handing me the required cash, organising it in little stacks of bank notes and coins as listed on my mother's note. I then secured each stack with a paper clip and carefully buttoned them up in my shirt pocket, before consulting a list of businesses where monthly accounts had to be paid for goods that my mother had ordered by telephone and which had been delivered by bicycle in the course of the month.

One particular businesses in my hometown was so technologically advanced that a desk clerk took one's account, one's money, rolled them together, inserted them in a bronze tube that was sealed and despatched with a swoosh via a pneumatic vacuum tube to a mysterious place elsewhere in the building, and a few moments later to arrive with a swish and a thump, with a receipt stapled to the account, along with one's change. In those days everyone paid for toys, cold drinks, sweets and movie tickets, restaurant meals and all other goods in cash - even the grownups did. Cash was King.

## **The Internet Then and Now**

When I started using the fledgling Internet in the late 1980s I had to first formulate a search query in prescribed format on my computer, make a trunk call from Durban to the CSIR in Pretoria, request an official for access to one of their remote-access servers, and when given the go ahead use my dial-up modem to log on and deposit my query and then logged off again while

my query was transmitted via satellite to somewhere in the USA where human operators would use my search terms to conduct human-mediated searches on the various electronic networks in the USA to which only specialist searchers had access. Twelve hours later I would again phone and log on to the CSIR's remote server to retrieve my search results, downloading three or four electronic documents by means of FTP (file transfer protocol), and sometimes none at all.

It is not generally appreciated that in South Africa we had an early system of electronic payments between the mid 1980s and 1999 that predated the Internet. It was a Videotext based system managed by Telkom that enabled subscribers with computers and modems to dial in to a server to conduct remote business transactions via a system called Beltel.

The system required of clients to use telephone lines and modems connected to personal computers or to dumb terminals, which had built-in modems but which had no data processing functionality. Telkom's dedicated terminal was named the Minitel. The system incorporated a billing system which enabled information providers and service providers to receive payment for information and services provided to users. The billing system was also capable of handling very small transactions that were referred to as micro-billing. Today handheld cell phones and PDAs deliver all of the functionality of the Beltel system, and as well as a range of more powerful functionalities.

Now it is common for persons to communicate with others via the Internet (email, Facebook, Skype, chat rooms and various discussion forums). Many persons read blogs or log on to electronic web sites like News24 rather than read printed newspapers. We talk on mobile phones, send email by mobile phone, access social media through mobile phones, or text messages, and we conduct business transactions via electronically accessible credit card accounts, and to top it all we play computer games on computers, on games machines, on mobile phones, all of it an experience in electronic immersion that has become the predominant narrative fiction medium of the late 20<sup>th</sup> and early 21<sup>st</sup> centuries generating even more profits than cinema.

For electronic payment one now goes online via an ADSL line rented from Telkom on one's computer linked to one's service provider, log on to one's bank account to pay whatever beneficiaries one has set up for

electronic funds transfer (EFT), or one uses a smart phone to do the same. While cash withdrawals from conveniently located automated teller machines (ATMs) or cash payments to unconnected service providers is common, as is payment to service providers (shops, restaurants and vendors) by producing a credit card to be swiped by the vendor, this system of payment is about to be replaced on mobile phones by applications (APPs) that will allow near field communication (NFC) data exchanges between a mobile phone and a vendor's payment-receiving electronic device.

## **What has Happened Over the Past 50 Years to Transform our Lives so Completely?**

There is a pattern emerging of how the ways in which 21<sup>st</sup> Century societies worldwide live, learn and work, how also the values by which they live are being transformed by two disciplines that originated independently in the 20<sup>th</sup> Century, namely *Organisational Management* and *Informatics*, but which have now achieved synchronicity with one another - transforming life as we know it.

Of the nineteen contributions in this issue of *Alternation* nine provide systematic and critical accounts of research regarding how information systems and technology drive the reconfiguration of business management, organisational management, education and governance:

- Transformational leadership is generally considered to be a way of developing social capital in organisations and achieving productivity, innovation and social transformation. These factors are therefore considered to be drivers of social and business development, and as being important for social and economic development in Africa. **Colene Hind and Renier Steyn** report the results of an empirical investigation among 868 employees at 17 South African organisations to determine the extent to which an environment where transformational leadership is practised in South Africa actually coincides with an environment that is conducive to the practice of corporate entrepreneurship. The researchers conclude that while transformational leadership proves to be important for social and business development, on their own they are not sufficient for the development of entrepreneurial spirit.

- **JS Wessels, RG Visagie and M van Heerden** state that truth, trust and integrity are essential to research at higher education institutions. Their contribution, in the form of a single qualitative case study, evaluates the likelihood that relevant policies at a selected South African institution of higher education actually do foster research integrity. Their findings indicate that a combination of policies regarding ethical research complement each other in fostering research integrity but conclude that further research will be necessary to establish whether policies indeed contribute to responsible researcher conduct.
- **Vannie Naidoo and Dwain Bailey** focus on warehousing as an integral component of every logistics system since it is the primary link between producers, suppliers and customers. Their research investigates the efficiency of warehousing within Protea Chemicals, with specific reference to the quality of the organisation's service. They report the results of empirical research regarding the company's operational staff, line management and internal customers' perceptions of Protea Chemical's warehouse quality.
- **Darrell Myrick** utilises Marxism to frame his essay on the need to distinguish between the poor and working classes during social transformation. According to Myrick since poverty cannot be eradicated without a working class that strives towards becoming the "new middle class" class, one can therefore describe class as being dynamic because the poor benefit from social distribution emanating from the working class and the middle class. The author concludes that since the ranks of the working middle class are expanded through the most mobile and successful members of the poor class, class migration is desirable and a necessity for eradicating poverty.
- **Renier Steyn and Leon Jackson** continue on the organisational transformation trajectory that Colene Hind and Renier Steyn introduced in their contribution regarding transformational leadership. In this article Steyn and Jackson gauge levels of gender-based discrimination perceived by managers and employees by an empirical analysis of information gathered from 145 South African managers and 1,740

employees working for 29 organisations by means of the standardised fair-treatment-at-work survey and the gender-based-discrimination questionnaire. Steyn and Jackson report that their analysis of the surveys of managers and employees confirmed that gender-based discrimination was the primary source of discrimination in the workplace, more so than race or ethnicity.

- **Bashir Amanjee and Teresa Carmichael** report the results of an empirical study on how team-based learning among South African MBA students could be enhanced through collaborative learning to enhance the employability of MBA graduates and foster good performance in workplace settings. The project entailed semi-structured in-depth interviews to gather qualitative data from a purposively selected sample of 13 current MBA students from several accredited business schools in the Gauteng province of South Africa. Amanjee and Carmichael's key insight was that learning to operate as part of a team did not emerge as a primary objective of team members. Not surprisingly students reported that their main goal was to submit an assignment, but also did learn something about teamwork in the process.
- Related to the theme of teamwork is research by Rubeshan **Perumal, Sadhasivan Perumal and Loganathan Govender** regarding knowledge sharing in Human Resource Management within the context of at higher education institutions in multiple countries. Rigid organisational structure, political interference, poor communication between employees, and a command-and-control approach were considered to be barriers to knowledge sharing, particularly in South Africa and Mauritius.
- **Eric Mang'anyi and Krishna Govender's** research on the relationship between service quality and customer satisfaction presents the results of an empirical quantitative survey on employees' and students' perceptions in a select number of Kenyan private universities. They conducted the survey by means of an adapted higher education service quality performance research instrument. Their findings reveal that regarding service quality, "access" and "non-academic" are most

significant determinants of perceived service quality in the private higher education sector in Kenya. More notably, the project did not find any empirical support for a positive and significant relationship between the academic dimension and perceived service quality in selected Kenyan higher education institutions.

- **Loganathan Govender, Sadhasivan Perumal and Rubeshan Perumal** provide a critical review literature about global benchmarks for knowledge management best practices in human knowledge management implementation. The authors conclude that distinct benefits of knowledge management benchmarking lead to an improved pace of service delivery, a corporate knowledge sharing culture, optimal use of existing organisational knowledge resources, and development of world class organizations through the formation of a knowledge management best practices directory.
- **Irene Govender and Menzi Mkhize** present the results of exploratory empirical research regarding students' perceptions about using e-learning in place of face-to-face lectures at university. They conclude that perceived usefulness as well as perceived ease of use have important influences on intention to use e-learning or to attend face-to-face lectures. The results also reveal that interaction is vital for effective learning to take place, and that students' choices are informed by their preferred learning styles.
- **Sarah Mello, Sam Lubbe, Nehimia Mavetera and Rembrandt Klopper** report the results of an empirical investigation into the social impact of information systems at Mafikeng Campus of North Western University. The authors conclude that information systems have an effect on social relationships because they have the power to change how other relationships are structured when people use these systems. The relationships include those among peers, students, lecturers and friends. Most users were reasonably satisfied with the current systems, but indicated that in future their needs should be considered as well as their inputs when developing and implementing new or upgraded system.



- **Kenneth Ohei, Sam Lubbe, Jan Meyer and Rembrandt Klopper** present the results of an empirical research project focussing on social differences between IS and non-IS students in the Faculty of Management, Administration and Law on the Mafikeng Campus of North West University, and students' views about Information Systems as a study choice and career choice. The project also focusses on the extent to which students utilise the information systems and technology resources available on the NWU Mafikeng Campus. The investigation reveals the importance of students' prior involvement with computer usage and interaction, namely that students must have acquired both computer knowledge (concepts) and computer skills (applications) in high school or through personal experiences before having enrolled on the NWU Mafikeng Campus.
- **Vikash Ramharuk and Mudaray Marimuthu** report the results of an empirical investigation into the preparedness of nurses to utilise a paperless record keeping in hospitals. The authors used a quantitative approach to gather information at a private hospital in the eThekweni Municipality in KwaZulu-Natal, South Africa. Hundred and sixty questionnaires were handed out to nurses and a total of 102 completed questionnaires were returned, giving the researchers a response rate of 64%. The results indicate that nurses considered both perceived usefulness and perceived ease of use as enablers to paperless recordkeeping. The results also indicate that knowledge about paperless recordkeeping and perceived compatibilities with existing systems of recordkeeping were positively correlated with the perceived usefulness and perceived ease of use.
- **Webster Chinjavata, Sam Lubbe and Rembrandt Klopper** report the results of a quantitative empirical evaluation of Information System (IS) Service Quality in a South African Governmental Department, based on the responses of 25 middle managers with access to IS equipment and tools in the Department of Economic Development, Environment, Conservation and Tourism situated in Mafikeng in the North West Province of South Africa. The main findings of the project reveal that there is a strong correlation between service delivery and the IS

infrastructure in the department and encompassing other factors which may include perceptions of clients, support systems to IS and the capabilities of the IS operators.

- The contribution of **Dan Remenyi**, which was solicited by the editor of this issue, provides a critical assessment of the requirements for completing a doctorate by writing the traditional monograph dissertation versus the approach of writing a series of research papers, which is increasingly being used at South African universities. The request was made after the editor was appointed as an examiner of a dissertation that was based on a number of scholarly articles, some of which were co-authored by the candidate's supervisor, in the absence of any examination criteria appropriate for the new approach provided by the university where the candidate studied in spite of repeated requests for such criteria by the examiner, and particularly when no documents containing such criteria could be found on any Internet-based research repositories.
- **Itumeleng Mogorosi, Sam Lubbe and Theuns Pelser** report the results of an empirical investigation into the impact of the implementation of an Enterprise Resource Planning (ERP) system on a typical governmental office in Mafikeng, situated in North West Province, South Africa. The results of this study revealed that there was deficiency in ERP system implementation, that employees were worried about data loss when they use the system, found system errors, experienced difficulty in exporting data, and were not satisfied with quality of output from ERP system.
- **Chipo Mavetera, Magda Huisman, Nehemiah Mavetera and Sam Lubbe** report the results of a critical assessment of the implementation of specific Business Process Reengineering (BPR) procedures due to rapidly changing technological trends in South African organisations, particularly the development of completely new Information Systems, not existing systems that are only being improved or reengineered. The authors conclude that problems remain regarding the use of legacy Systems Development Methodologies for Business Process Re-engineering.

- **Peter Denny and Manoj Maharaj** report the results of a quantitative empirical study of educator - student cultural congruence as a predictor of academic performance in Information Systems and Technology education in South Africa, “because challenges related to race and culture-based performance gaps continue to be an unavoidable characteristic of the South African educational landscape.” The authors recommend a review of teacher education with a view to ensuring that specific programmes are included that enhance teachers’ abilities to relate appropriately to students of various cultures, to “counter the influences of deep seated prejudices and the expression of these via discriminatory teaching practices, assist educators to cultivate and nurture immediacy behaviours that are shown by research to appeal to the various students they teach, and which generally assist educators to create and maintain a higher level of affinity with their students.”
- **Gary Mersham** provides a concise and lucid overview of e-learning as disruptive, innovative and inevitable digital communication force in the reconfiguration of higher education worldwide. Drawing on communication theory, Mersham offers alternative perspectives on understanding, describing, and scrutinising online communication and challenging educators to consider the effects of technology on the processes of online communication and interaction.

Rembrandt Klopper  
Department of Communication Science  
Faculty Arts  
University of Zululand  
South Africa  
rembrandtklopper@icloud.com