

# 价值工程

2018年4月中旬刊(总第487期/第37卷)  
1982年创刊 2018年4月18日出版

中国商界文联会刊  
中国技术经济研究会价值工程专业委员会  
中国高等教育学会价值工程分会

封面刊名题字:袁宝华

主管单位:

河北省科学技术协会

主办单位:

河北省技术经济管理现代化研究会

名誉总编:郜明信

总 编:高志彪

总 编 室:师瑞

电 话:0311-87024742

编辑部:马慧霞

刘英禄

电 话:0311-83020178

0311-83036626

传 真:0311-87024742

投稿邮箱:vezzsbjb@163.com

网 址:www.vezzs.com

责任编辑:高生明

封面设计:王金军

版面设计:韩宇红

国内统一连续出版物号:CN 13-1085/N

国际标准连续出版物号:ISSN 1006-4311

国内邮发代号:18-2

国内订阅:全国各地邮局

国内发行:河北省报刊发行局

国外发行:中国国际图书贸易总公司

印 刷:廊坊市长岭印刷厂

编辑出版单位:价值工程杂志社

社 址:石家庄市槐安西路88号卓达  
物业楼A501室

邮 编:050091

国内定价:30.00元人民币

海外定价:30.00美元

# 目 录

## \* 价值管理 \*

- 基于 BIM 技术的建筑工程安全管理研究 ..... 李宏远(1)  
资源型县域经济转型发展研究 ..... 陈碧玉等(4)  
基于 SWOT 分析的广西“渝桂新”南向通道建设对策研究  
..... 尚书山(7)  
我国职业资格证书供给问题的探析 ..... 张兰萍(9)  
创业孵化基地、创业团队及创业项目的全生态协同系统探索  
..... 许思杭等(11)  
基于 PDCA 循环管理的大学生主题餐厅策划与经营 ..... 张燕(13)  
基于 BIM 的建筑工程项目集成管理研究 ..... 洪文霞等(16)  
浅谈小型混凝土预制构件在开民高速中的施工管理与质量控制  
..... 刘月丽(18)  
基于 FMEA 法的复杂系统风险因素识别研究 ..... 葛运朋等(21)  
我国物业管理企业发展现状分析 ..... 吴京华等(24)  
高原地区埋地钢制油气管道风险评价模型研究 ..... 朱平等(25)  
大学生购买知识付费产品的调查研究 ..... 胡洋等(29)  
银川市旅游发展潜力评价研究 ..... 姚偶(31)  
福建 LNG5#、6# 储罐总承包项目进度管理的系统控制 ..... 柴洁(36)  
PPP 模式下城市污水处理风险管理 ..... 杨伟明(38)  
试析公路试验检测与现场施工质量控制要点 ..... 李浩然(40)  
试析工程造价超预算的原因和控制策略 ..... 邓兵兵(42)  
创新驱动下的高层次经营管理人才培养机制建设研究  
..... 王红军(44)  
基于 ISM 的 X 公司生产系统影响因素分析 ..... 周三玲等(46)  
某高速公路路堑高边坡施工安全总体风险评估的应用  
..... 轩宁等(49)  
酒店女性管理者工作压力源与缓解对策研究 ..... 曹巧玲等(53)  
刍议如何提升无人值守变电站的运维管理成效 ..... 阎志瑞(55)  
建筑施工管理中出现的不足和对策 ..... 任添强(57)  
建设工程投标报价的风险分析及防范措施探讨 ..... 李文静(59)  
探讨知识经济时代下人力资源价值评估 ..... 王娜(61)  
分析建筑设计中的工程造价控制 ..... 方迪(63)  
探析高校建设项目管理办法 ..... 陈丽等(65)  
物流园区开发项目 PPP 模式应用研究 ..... 柯洪等(67)  
浅谈用价值工程原理控制工程成本 ..... 林俊标(69)  
金融支持河北省重点项目建设的对策建议研究 ..... 米彦香(71)  
试析高速铁路信号系统的网络安全与统一管控 ..... 赵妮(73)  
探讨新能源共享汽车运营环节标准化建设 ..... 谢坤峻(75)  
太行山区传统建筑质量病害研究 ..... 李莉等(77)

## \* 价值链·供应链 \*

- 基于可编程移动代理的 MANETs 分布式入侵检测方法 ..... 张双等(79)  
产业联盟促进“三链融合”发展作用机制研究 ..... 蒋庆来等(82)  
建筑施工供应链协调及其问题分析 ..... 卢先亮(85)

## \* 功能载体创新 \*

- 基于 BIM 技术的人工挖孔扩底桩稳定性控制方法 ..... 谢童安等(87)  
试论现代市政道路给排水管道工程施工标准 ..... 张爱支(90)  
公路工程改扩建技术研究 ..... 池建新(92)

曲线段混凝土预应力槽型梁施工技术 .....	李维宇(94)	基于基站通话单数据的警情分析 .....	宋娟等(190)
切削参数与刀具磨损对振动和声发射信号的影响 .....	王沛鑫等(97)	基于 PSPL 调查方法的城市公共空间改善 .....	储千程等(192)
CO <sub>2</sub> 空气源热泵电子膨胀阀节流特性实验研究 .....	王钦戎等(100)	物联网技术在输变电设备状态监测中的应用 .....	尹喜阳等(194)
桥头跳车防治中横向加筋注浆技术的应用 .....	郝明瑞(102)	物探方法在住房用地地下岩溶勘查中的应用 .....	王家俊等(196)
桥梁工程后张法预应力施工技术分析 .....	彭荣贵(104)	论建筑深基坑支护存在的问题及安全技术实践思考 .....	陈振邦(199)
公路工程填石路基施工技术分析 .....	王洪伟(106)	创新券在高校科技资源共享应用中的研究 .....	王文君等(201)
浅埋偏压段隧道盖挖法的应用与施工技术 .....	班瑞宏(108)	云计算环境下虚拟机在图书馆信息化中的应用 .....	张阳(203)
同相异相路面成槽装置的设计与施工 .....	张自安等(111)	关于民办二级学院师资队伍建设的几点思考 .....	奚曦(205)
混凝土箱梁力学性能的有限元分析 .....	洪学娣(114)	基于 MOOCs 的创新教育模式研究 .....	杨晓光等(207)
“8”小车的机构设计及应用 .....	曲全鹏等(116)	API1000 核电厂废物最小化浅析 .....	倪依雨等(209)
软开关电源在微波高温设备中的应用研究 .....	李鑫培等(119)	“双一流”高校图书馆利用微信公众平台开展新生入馆教育的调查与分析 .....	荀静(212)
跨多股铁路线的 T 型梁板拆除施工技术 .....	吴柱(124)	浅谈高校图书馆阅读推广人的培育 .....	杨小青(214)
开洞开缝钢板剪力墙的试验与理论研究 .....	左咏梅等(127)	军民融合中民参军产品定价机制的研究 .....	孙滨等(216)
高铁跨高速公路道岔梁模板安装及混凝土浇筑 .....	王鑫(129)	民办独立院校理工科实验班培养模式的探索与实践 .....	高婷婷(218)
防水板铺设台车在隧道施工中的应用 .....	李颖等(131)	高职管理人员的激励困境与解困策略 .....	吴煜辉(220)
钢管柱模板支撑系统在大跨度连续梁 0 号段的应用 .....	唐佐忠(133)	磁流变抛光技术在 SiC 晶片加工工艺中的应用研究 .....	赵卫等(222)
关于机制砂在隧道喷射混凝土中的应用研究 .....	唐富学(136)	沙漠地区输电线路装配式微型沉井基础模块化设计及应用 .....	周楠等(224)
公路破损水泥混凝土加铺沥青面层施工技术 .....	王恕奎(139)	基于应用型土木人才培养的全生命周期一站式案例应用研究 .....	张敏等(225)
一种小型液动力单元的设计 .....	纪运广等(141)	电路分析实验课程实践 .....	张婉妹等(227)
适用中浅基坑的简易钢板桩施工工艺与工程实践 .....	任巍杰(144)	四新技术在地下建筑工程施工中的有效应用 .....	戈树波(229)
浅谈浅埋富水膨胀土隧道施工止水技术 .....	周成成(147)	现代信息技术在高等教育中的应用进展 .....	刘元园(231)
钢结构蜂窝梁的设计及经济性评价 .....	张飞燕(149)	我国装配式建筑发展现状探讨 .....	余登等(233)
铁路隧道小净距下穿既有公路隧道施工技术 .....	丁宁(152)	Revit 在住宅项目中的运用 .....	邓少林等(235)
		高精度智能全站仪结合徕卡多测回测角软件在山区高程控制测量中的应用 .....	文平(237)
<b>* 价值应用 *</b>			
隧道施工引起地面沉降的原因及控制研究 .....	潘宇平(155)	<b>* 理论综述 *</b>	
因子分析在房地产销售情况中的应用 .....	沈潮潮(157)	借鉴国外先进职业教育政策,提升我国教育事业 .....	吝方冉等(240)
基于物联网的车位在线检测与显示 .....	田昌民等(160)	南京市康复医疗机构人员配置研究 .....	张艳华等(242)
绿色增塑剂柠檬酸三丁酯的制备研究 .....	圣雅怡等(165)	地下结构震害及抗震分析方法综述 .....	安腾(244)
风机机组选型多目标熵决策研究 .....	曹光昭(167)		
河南省高校青年教师的职业压力问题及其缓解对策 .....	刘芸(169)	<b>* 综合 *</b>	
互联网+与会计教育的融合问题研究 .....	崔学贤等(171)	双创背景下的高职《汽车美容与装潢》课程创新探讨 .....	傅松桥(246)
基于库水条件下典型堆积体滑坡抗震能力与破坏机理研究 .....	王少华等(173)	基于 MOOC+翻转课堂《电子产品安装与维修》课程探讨 .....	刘阳京(248)
建筑行业盈利能力在行业周期中趋势研究 .....	肖大强等(178)	机械制造工艺装备项目化改革探索与实践 .....	赵艳妮等(250)
搜索引擎社会责任缺失的现状、原因及对策研究 .....	王玮等(180)	《王者荣耀》对高职学生的影响及应对策略研究 .....	朱壹(252)
泰州市大学生“网络家教平台”的探究 .....	许文慧(182)	产品制作化在《电工电子技术》课程改革中的应用研究 .....	马文明等(254)
学分制下工商管理专业培养计划优化研究 .....	胡剑芬(184)	经济新常态下高职教育模式研究 .....	葛国华(256)
一种新型的桥梁主动防船撞监测预警系统 .....	刘畅等(187)	翻转课堂模式下的现代控制理论课程研究 .....	田小敏等(258)

## Value Engineering

(VE)

Fortnightly Issue

Started in 1982

Vol.37 4.b

(Sum No.487)

Published in Apr. 18, 2018

### Inscribed:

Yuan Baohua

### Honorary Editor-in-Chief:

Gao Mingxin

### Executive Editor-in-chief:

Gao Zhibiao

### Manager:

Hebei Association for  
Science and Technology

### Sponsor:

Hebei Institute of  
Technology Economy and  
Modern Management

### Chief Editor's Department:

Shi Rui

### Editor:

Editorial Team of VE

### Publisher:

Magazine Publishing House of VE

### Address:

Room A501, Zhuoda Property  
House, No.88 Huai'an Road

Tel: (0311) 87024742

### E-mail:

vezzsbjb@163.com

### Printed by:

Changling Printing House, Langfang

### Distributor:

Shijiazhuang Post Office

### Subscriptions:

Chinese Local Post Office

**Domestic Issue Code:** 18-2

**Domestic Single Price:**

¥30.00

**Overseas Single Price:**

\$ 30.00

**Open Publishing**

ISSN 1006-4311

CN 13-1085/N

# CONTENTS

## VALUE MANAGEMENT

- 1 Research on Safety Management of Construction Engineering Based on BIM Technology ..... LI Hong-yuan  
4 Research on Economic Transformation and Development of Resource-based Counties ..... CHEN Bi-yu, *et al.*  
7 The SWOT Analysis about the Countermeasure of Guangxi in Construction of "Chongqing-Guangxi-Singapore" South Channel  
..... SHANG Shu-shan  
9 Analysis on the Supply Problems of the Occupation Qualification Certificate in China ..... ZHANG Lan-ping  
11 Exploration of Whole Ecology Collaborative System Composed of Entrepreneurial Incubation Bases, Entrepreneurial  
Teams and Entrepreneurial Projects ..... XU Si-hang, *et al.*  
13 College Student Themed Restaurant Planning and Management Based on PDCA Cycle Management ..... ZHANG Yan  
16 Research on Integrated Management of Construction Project Based on BIM ..... HONG Wen-xia, *et al.*  
18 Discussion on Construction Management and Quality Control of Small Concrete Prefabricated Components in Kaifeng-Minquan  
Expressway ..... LIU Yue-li  
21 A Method of Distinguishing the Risk Factors of Complex System Based on FMEA ..... GE Yun-peng, *et al.*  
24 Analysis on the Development of Property Management Enterprises in China ..... WU Jing-hua, *et al.*  
25 Study on Risk Assessment Model of Buried Steel Oil and Gas Pipeline in Plateau Area ..... ZHU Ping, *et al.*  
29 Investigation and Research on the Purchase of Knowledge Paid Products by College Students ..... HU Yang, *et al.*  
31 Study on the Evaluation of Tourism Development Potential in Yinchuan City ..... YAO Yu  
36 System Control of Schedule Management of Fujian LNG 5#, 6# Tank General Contract Project ..... CHAI Jie  
38 Risk Management of Urban Sewage Treatment in PPP Model ..... YANG Wei-ming  
40 Analysis on the Key Points of Highway Test and Site Construction Quality Control ..... LI Hao-ran  
42 An Analysis of Reasons and Control Strategies of Project Cost Over Budget ..... DENG Bing-bing  
44 Study on High-level Management Talent Cultivation Mechanism Driven by Innovation ..... WANG Hong-jun  
46 Analysis of Factors Affecting Production System of X Company Based on ISM ..... ZHOU San-ling, *et al.*  
49 Application for General Risk Assessment of Expressway Cutting High Slope in Construction Safety ..... XUAN Ning, *et al.*  
53 Study on the Source of Work Pressure and Mitigating Countermeasures of Female Hotel Managers ..... CAO Qiao-ling, *et al.*  
55 On How to Improve Operation and Maintenance Management Results of Unattended Substation ..... YAN Zhi-rui  
57 Shortcomings and Countermeasures in Construction Management ..... REN Tian-qiang  
59 Risk Analysis and Preventive Measures for Construction Project Bidding Quotation ..... LI Wen-jing  
61 Discussion on the Evaluation of Human Resources Value in the Era of Knowledge Economy ..... WANG Na  
63 Analysis of Project Cost Control in Architectural Structure Design ..... FANG Di  
65 On the Methods of Construction Project Management in Colleges and Universities ..... CHEN Li, *et al.*  
67 Research on the Application of PPP Model for Logistics Park Development Project ..... KE Hong, *et al.*  
69 Discussion on the Value Engineering Principle for the Control of Engineering Cost ..... LIN Jun-biao

71	Research on Countermeasures of Financial Support for Major Projects in Hebei Province .....	MI Yan-xiang
73	Analysis of Network Security and Unified Control of High-speed Railway Signal System .....	ZHAO Ni
75	Exploration on the Standardization Construction of New Energy Shared Car Operation .....	XIE Kun-jun
77	Research on the Disease of Traditional Building Quality in Taihang Mountain Area .....	LI Li, <i>et al.</i>

### VALUE CHAIN·SUPPLY CHAIN

79	MANETs Distributed Intrusion Detection Method Based on Programmable Mobile Agent .....	ZHANG Shuang, <i>et al.</i>
82	The Functional Mechanism Research of Industry Alliance in Promoting the "Three Chain Integration" Development .....	JIANG Qing-lai, <i>et al.</i>
85	Building Construction Supply Chain Coordination and Analysis of Its Problems .....	LU Xian-liang

### FUNCTION CARRIER INNOVATION

87	The Controlling Methods of the Stability of the Artificial Hole Dug Belled Pile Based on BIM Technology .....	XIE Tong-an, <i>et al.</i>
90	Discussion on Construction Standard of Modern Municipal Road Water Supply and Drainage Pipeline Project .....	ZHANG Ai-zhi
92	Research on Reconstruction and Extension of Highway Engineering .....	CHI Jian-xin
94	Construction Technology of Curved Concrete Prestressed Grooved Beam .....	LI Wei-yu
97	The Influence Law of the Cutting Parameters and Tool Wear on the Vibration and AE Signals .....	WANG Pei-xin, <i>et al.</i>
100	Experimental Study on Throttling Characteristics of Air Source Carbon Dioxide Heat Pump Electronic Expansion Valve .....	WANG Qin-rong, <i>et al.</i>
102	Application of Lateral Reinforcement Grouting in Preventing and Controlling Bridgehead Jumping .....	HAO Ming-rui
104	Analysis of Post-tensioned Prestressed Construction Technology of Bridge Engineering .....	PENG Rong-gui
106	Construction Technology Analysis of Rockfill Embankment in Highway Engineering .....	WANG Hong-wei
108	Application and Construction Technology of Shallow Buried Partial Tunnel Cover Excavation Method .....	BAN Rui-hong
111	Research on a Kind of Grooving Device for Heterogeneous Phase Pavement .....	ZHANG Zi-an, <i>et al.</i>
114	Finite Element Analysis of Mechanical Performance of Concrete Box Girder .....	HONG Xue-di
116	Design and Application of "8" Car .....	QU Quan-peng, <i>et al.</i>
119	Research on Application of Soft Switching Power Supply in Microwave High Temperature Equipment .....	LI Xin-pei, <i>et al.</i>
124	Construction Technology of the T Bridge Beam Plate Demolition across Multiple Rail-lines .....	WU Zhu
127	Experimental and Theoretical Study on Open Slotted Shear Wall .....	ZUO Yong-mei, <i>et al.</i>
129	High Speed Rail Crossing Expressway Turnouts Formwork Installation and Concrete Pouring .....	WANG Xin
131	Application of Waterproof Board Laying Trolley in Tunnel Construction .....	LI Ying, <i>et al.</i>
133	Application of Steel Pipe Column Formwork Support System to Section 0 of Long Span Continuous Beam .....	TANG Zuo-zhong
136	Application of Mechanism Sand in Tunnel Shotcrete .....	TANG Fu-xue
139	Construction Technology of Highway Damaged Cement Concrete Asphalt Pavement .....	WANG Shu-kui
141	Design of A Small Hydraulic Power Unit .....	JI Yun-guang, <i>et al.</i>
144	Construction Technology and Engineering Practice of Simple Steel Sheet Pile for Shallow Foundation Pit .....	REN Wei-jie
147	On the Waterproofing Technology in the Construction of Shallow Buried Expansive Soil Tunnel .....	ZHOU Cheng-cheng
149	Design and Economy Evaluation of Steel Castellated Beams .....	ZHANG Fei-yan
152	Construction Technology of Railway Tunnel Underpassing Existing Highway Tunnel with Small Clear Distance .....	DING Ning

### VALUE APPLICATION

155	The Research on the Cause and Control of the Ground Subsidence Caused by Tunnel Construction .....	PAN Yu-ping
157	Application of Factor Analysis in Real Estate Sales Situation .....	SHEN Chao-chao
160	Parking Space Online Testing and Display Based on Internet of Things .....	TIAN Chang-min, <i>et al.</i>
165	Research on the Preparation of Green Plasticizer Tributyl Citrate .....	SHENG Ya-yi, <i>et al.</i>
167	Multi-objective Entropy Decision for Fan Selection .....	CAO Guang-zhao
169	Research on the Occupational Stress of Young Teachers in Colleges and Universities in Henan Province .....	LIU Yun
171	Research on the Integration of Internet+ and Accounting Education .....	CUI Xue-xian, <i>et al.</i>
173	Research on Bearing Capacity and Failure Mechanism of Typical Deposit Landslide under the Reservoir Water Condition .....	WANG Shao-hua, <i>et al.</i>
178	Study on the Trend of Profitability of Construction Industry in Industry Cycle .....	XIAO Da-qiang, <i>et al.</i>
180	Research on the Status quo, Reasons and Countermeasures of the Lack of Social Responsibility in Search Engines .....	WANG Wei, <i>et al.</i>

182	Research on "Network Tutoring Platform" of Taizhou University Students .....	XU Wen-hui
184	Study on the Optimum of Business Administration Major Cultivation Planning Based on the Mode of Credit System .....	HU Jian-fen
187	A New Type of Bridge Active Anti-ship Collision Monitoring and Warning System .....	LIU Chang, <i>et al.</i>
190	Police Intelligence Analysis Based on Base Station Communication List Data .....	SONG Juan, <i>et al.</i>
192	Improvement of Urban Public Space Based on PSPL Research Method .....	CHU Qian-cheng, <i>et al.</i>
194	Application of Internet of Things Technology in Condition Monitoring of Transmission and Distribution Equipment .....	YIN Xi-yang, <i>et al.</i>
196	The Application of Geophysical Prospecting Method in Investigation of Karst Collapse .....	WANG Jia-jun, <i>et al.</i>
199	Discussion on Problems Existing in Deep Foundation Pit Support Construction and Practice of Safety Technology .....	CHEN Zhen-bang
201	Study on the Application of Innovation Vouchers in Science and Technology Resources Sharing in Colleges and Universities .....	WANG Wen-jun, <i>et al.</i>
203	The Application of Virtual Machine in Library Information in Cloud Computing Environment .....	ZHANG Yang
205	Some Thoughts on the Construction of Teaching Staff in Private Secondary Colleges .....	XI Xi
207	Research on Innovative Education Model Based on MOOCs .....	YANG Xiao-guang, <i>et al.</i>
209	A Brief Analysis of Waste Minimization at AP1000 Nuclear Power Plant .....	NI Yi-yu, <i>et al.</i>
212	Investigation and Analysis on the Library Entry Education for Freshmen in "Double First-Class" University Library Based on WeChat Public Platform .....	XUN Jing
214	Discussion Training Reading Promoter in Academic Libraries .....	YANG Xiao-qing
216	Research on the Pricing Mechanism of Civil-military Products in Civil-military Integration .....	SUN Bin, <i>et al.</i>
218	Exploration and Practice of Training Mode of Science and Engineering Experimental Class in Private Independent Colleges .....	GAO Ting-ting
220	The Incentive Predicament and Strategy of Higher Vocational Education Managers .....	WU Yu-hui
222	Application Research on Magnetorheological Finishing in the SiC Wafer Processing .....	ZHAO Wei, <i>et al.</i>
224	Modular Design and Application of Fabricated Miniature Caisson Foundation for Transmission Lines in Desert Area .....	ZHOU Nan, <i>et al.</i>
225	Research on Application of the Whole Life-cycle One-case Mode Based on the Training of Applied Civil Talents .....	ZHANG Min, <i>et al.</i>
227	Practice of Circuit Analysis Experiment Course .....	ZHANG Wan-mei, <i>et al.</i>
229	Effective Application of Four New Technologies in Underground Building Construction .....	GE Shu-bo
231	The Progresses of Application of Modern Information Technology in the Teaching and Management of Universities .....	LIU Yuan-yuan
233	Discussion on the Development of Prefabricated Buildings in China .....	YU Deng, <i>et al.</i>
235	Application of Revit in Residential Project .....	DENG Shao-lin, <i>et al.</i>
237	Application of High-precision Intelligent Total Station with Leica Multi-measurement and Angle-measuring Software in Mountain Elevation Control Measurement .....	WEN Ping

### THEORETICAL REVIEW

240	Drawing Lessons from Foreign Advanced Vocational Education Policies to Promote Education in China .....	LIN Fang-ran, <i>et al.</i>
242	Research on Staffing of Rehabilitation Medical Institutions in Nanjing .....	ZHANG Yan-hua, <i>et al.</i>
244	Review of Seismic Damage and Anti-seismic Analysis Method of Underground Structures .....	AN Teng

### COMPREHENSION

246	Discussion on the Higher Vocational Curriculum Innovation of Automobile Beauty and Decoration under the Background of Mass Entrepreneurship and Innovation .....	FU Song-qiao
248	Discussion on "Electronic Product Installation and Maintenance" Curriculum Based on MOOC+Flipping Classroom .....	LIU Yang-jing
250	Exploration and Practice of Project Reform of Mechanical Manufacturing Technology and Equipment .....	ZHAO Yan-ni, <i>et al.</i>
252	Influence of "Arena of Valor" on Higher Vocational Students and Countermeasures .....	ZHU Yi
254	Application of Product Making in the Course Reform of Electrical and Electronic Technology .....	MA Wen-ming, <i>et al.</i>
256	Research on Higher Vocational Education Mode in the New Normal Economy .....	GE Guo-hua
258	Research on the Course of Modern Control Theory in the Mode of Flipping Classroom .....	TIAN Xiao-min, <i>et al.</i>